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Fatality.

It had always been recognised that small-pox differed greatly in its fatality or case mortality rates as between one time and another and one place and another. Previously to the passing of the Acts for the notification of infectious diseases fatality rates had to be obtained almost wholly from the records of hospitals, and prior to 1870 practically the only institution of this kind in this country was the London Hospital for Small-pox and Vaccination. By the end of 1870 the first of the institutions of the Metropolitan Asylums Board was used for small-pox and other hospital data became available.

The gross fatality rates of small-pox, including both unvaccinated and vaccinated, had been in 1836–51 21·38 per cent., and in the pandemic of the "seventies" about 18 per cent.—in Dublin about 21 per cent. The next extensive epidemic was in 1892–95, but intermediately two local epidemics occurred—one in Sheffield having a fatality rate of 10·1 per cent., and a similar one in Bristol of 11·3 per cent. The epidemic of 1892–95 was extensive, and its fatality rate in the M.A.B. Hospitals was 8 per cent. In 28 populations in the provinces, Scotland, and Dublin the fatality rate was 8·5 per cent. The same general type of disease had therefore prevailed throughout the country as a whole, and small-pox was much less fatal than it had been in the pandemic of the "seventies." The next extensive epidemic was that of 1902–05, and an important distinction emerged between London and the rest of the country. In London the fatality rate reverted practically to the high figures of the outbreaks previous to 1892–95, as the following series of rates shows:—

1870–72	1876–78	1879–83	1884–85	1892–93	1901–02
18·8 ...	18·2 ...	16·5 ...	15·9 ...	8·0 ...	16·8

In the provinces, instead of reversion to a higher rate, there was a still further diminution in fatality. In the years 1902–06 inclusive, in areas for which returns had been obtained by the Local Government Board, 23,883 cases had 1649 deaths, or 6·9 per cent. In many places the rates ranged round 3 per cent., 4 per cent., and 5 per cent. This epidemic of the early years of the present century showed lower fatality than had been met with in small-pox since reliable statistics on any extensive scale had become available. The statistics did no more than support clinical observation of the change that had taken place in small-pox. Every physician whose experience went back far enough had seen with his own eyes the contrast between past and present. To some extent comparison of fatality rates was affected by the systematic contact hunting which now brings to light many slight cases, and at the same time contact hunting results in many cases being vaccinated during incubation and just too late for complete protection but with much modification of the disease. Making allowance for these considerations the diminution in fatality was quite unquestionably very great.

The simultaneous appearance of two types of infection, one in London and the other in the provinces, raised the important question of the source of the two varieties. Available facts indicate that the London small-pox had come from France, especially from Paris. Spain, France, and Italy, all with a Mediterranean littoral, were continually liable to infection from North Africa, where small-pox was habitually severe. In Paris in 1900–01 there were 4505 cases with 758 deaths, or 16·8 per cent. This happens to be exactly the London fatality rate of the same period, and Sir Shirley Murphy in his Report to the London County Council for 1902 wrote: "In summary it may be stated that during 1900 and 1901 small-pox had been frequently introduced into London from abroad, especially from Paris."

Of the mild type which prevailed in the provinces the source was to be found in the New World. In America the disease had prevailed in a very remarkably attenuated form. In Trinidad in 1902–03 there were 5256 reported cases with only 28 deaths, or 0 53 per cent. In the United States very mild small-pox had prevailed for many years, percentage fatalities on a very large basis of facts being 2·3 per cent. in 1901, 3·7 per cent. in 1902 and 3·4 in 1903. Dr. Boobbyer, of Nottingham, in *The Lancet* and *British Medical Journal* in 1901 related how small-pox had been introduced into Nottingham by means of a Mormon conference, and the disease had been communicated to various towns in England. Similarly, Mormon activities had been asserted to be responsible for New Zealand small-pox in 1913–14. The fatality rates above mentioned have been even further diminished since 1901–03. Dr. Bruce Low's recent report to the Local Government Board contains a most valuable collection of statistics relating to small-pox throughout the world, and many of the figures submitted by the lecturer were based on that report. New South Wales had also shared in the mild American type. In 1913–14 it had only two deaths in 1661 cases, and infection was supposed to have been imported from Vancouver.

Intercurrently, however, there had been various outbreaks of comparatively high severity in New York, in Canada, and in our own country, as in Hull in 1899–1900, where the disease had been introduced apparently from Southern Russia. Dr. Franklin Parsons had related that in one town in Lancashire there were outbreaks from the two sources concurrently, one mild from America and the other severe from Paris *via* London. The change from severe to mild had occurred on the whole somewhat suddenly, the epidemic of the early "nineties" being the first of the mild type on any extensive scale. To the question whether the two diseases were both really variolous or differed from each other as typhoid and paratyphoid differ, vaccination seemed to supply the answer. It prevents the mild type just as it prevents the severe, and Chapin had said: "The crucial test of the identity of the two forms is, however, to be found in their immunity relation. Persons who have had small-pox or who have been successfully vaccinated are at least as immune to the mild as to the severe type." At first the mild type was naturally regarded as a "sport," but if it were to displace throughout the civilised world the severe type, then by and by the latter would have to be regarded as the "sport."

The conditions under which small-pox assumed high virulence in one part of the world at one time and attenuation in another part at another time were well worthy of study, say by the Medical Research Committee.

The fatality of natural small-pox was discussed in connexion with the statistics of the eighteenth century,

when there was no vaccination, and with the fatality rates of the disease amongst the unvaccinated since the beginning of the nineteenth century. Reservations, however, had to be made in respect of age-incidence because small-pox was very fatal in infancy, reached its lowest natural fatality in the third quinquennium of life, and rose again in adult life. Epidemics occurring at different intervals would include different numbers of cases at the several groups of ages, and were not, therefore, always strictly comparable. Also, in the eighteenth century, chicken-pox may sometimes have been confused with small-pox. Such reservations apply to the earliest available figures, those of Dr. Jurin of the Royal Society in the period 1720–30, when the fatality rate was stated at about 16 or 17 per cent. Bearing them in mind, however, for what they were worth, the next available figures were those of the London Small-pox Hospital, where from 1746 to 1763 the fatality rate was over 25 per cent. and in the last quarter of the eighteenth century it had risen to over 32 per cent. Small-pox was, therefore, becoming a more severe disease throughout the eighteenth century. In the nineteenth century among the unvaccinated there had been in the early years a further rise, the period 1836–51 having a hospital fatality rate among the unvaccinated of 37·5 per cent., though at that time the severer cases were often sent to hospital and some proportion of milder cases might be kept at home. In the epidemic year 1838 the unvaccinated rate was 40·1 per cent., but the reservation just mentioned has to be borne in mind. In the epidemic of 1870–73 the Metropolitan Asylums Board Hospitals had an unvaccinated fatality rate of 44·8 per cent., say 45 per cent. This appeared to indicate the maximum virulence in respect of epidemic fatality which small-pox has reached in this country during the past 200 years. It is not merely statistics which justify this view. Dr. Munk and Mr. Marson, the medical officers to the London Small-pox Hospital, which was then still in use, referred to the malignancy of the disease as being very largely in excess of anything within their experience, and Dr. Seaton, reporting to the Local Government Board, wrote similarly. During the half century which is nearly completed since the epidemic of 1870–73 there has been, with the exception of London in 1901–02, great and practically continuous diminution in the fatality of natural small-pox in this country. In 1873–84 the metropolitan hospitals' unvaccinated fatality rate fell to 38·6 per cent., and in 1892–93 the London rate was 24·2 per cent. In 1892–95 a large number of populous places had amongst them 2349 unvaccinated cases, with 602 deaths, or 25·2 per cent., practically the same as in London. In the most recent epidemic, that of the early years of the present century, it had already been pointed out that the London area suffered from the African type of small-pox, and the fatality rate among the unvaccinated was 33·1 per cent. In the provinces, however, in fully a thousand unvaccinated cases the rate was 19·3 per cent. Subject to the reservations previously noted, this would indicate that the wave of fatality which for want of earlier data has been taken as beginning in 1720, kept on increasing until the pandemic of 1871–72, and since that time has been decreasing. Subsequent to the epidemic of 1901–05 there has been little prevalence of the disease, but such figures as exist, broadly looked at, continue to point in the same direction. The diminution depended largely, though not entirely, on the substitution of the American type for the African type.

Infectivity.

Two factors go to make up infectivity—one the quality of the infection and the other the quantity. Bacteriology had not yet conclusively identified the organism of small-pox, but observation showed that in respect of the quality of its infection it has more resemblance to scarlet fever and diphtheria than to measles and whooping-cough. In measles there are practically no sporadic cases. A single case means an epidemic. Whooping-cough tends in the same direction. In scarlet fever, on the other hand, sporadic cases, not necessarily portending an epidemic, are frequent. In diphtheria Dr. D. S. Davies of Bristol found that change from the sporadic to the epidemic type of the disease was accompanied by definite change in the characters of the organism. In small-pox "sporadic" cases in inter-epidemic periods are not uncommon. Epidemics sometimes begin very slowly, but sometimes break out very suddenly. London in 1901 and Gloucester in 1895–96 are examples of a slow onset. On the other hand, Edinburgh in 1903–04 had a rapid onset of its epidemic.

Leaving quality and dealing with quantity, the amount of the eruption, both cutaneous and buccal, is, broadly speaking, the measure of infectivity. But the amount of eruption is also related to the fatality rate. It has steadily diminished. So also has the average amount of eruption, and so again the infectivity. Small-pox, therefore, has been in recent years a much less infectious disease than half a century ago.

Prevalence.

As to prevalence, fatality and infectivity being reduced, it follows that other things being equal prevalence must also have diminished, and Dr. Bruce Low's Report gives abundant evidence of the fact. In England and Wales the deaths have remarkably diminished. In five successive decades they have been—

1857–76	1877–86	1887–96	1897–1906	1907–16
58,614	18,026	4892	4763	139

The notifications since 1911 have been very few, and in 1917 the extraordinarily low figure was reached of 5 cases for the whole of England and Wales, 2 of the 5 being in port towns. In Edinburgh and Glasgow, in the five years 1912–16 inclusive, there was not a single notification, and in the 12 years 1905–16 the two cities had only 37 cases with 1 death. In Ireland, in the 12 years 1906–17, there has been 1 death. The Scandinavian countries have shared in this remarkable absence of small-pox, and so also has Holland, but in several European countries—France, Spain, Portugal, Italy, and Russia—there has been no such disappearance of the disease. In Britain, however, during the last half-century there has been, with the exception of the metropolitan epidemic of 1901–02, a fairly steady diminution in the fatality, the infectivity, and the prevalence of small-pox. This diminution has progressed at an increasing rate of speed, and since the mild epidemic of 1901–05 the country has shown an unparalleled degree of freedom from the disease.

LECTURE II.

VACCINATION AS IT WAS AND IS.

Neither infantile vaccination nor revaccination has ever been really compulsory in the United Kingdom. The utmost penalty has been the infliction of fines, and non-payment of a fine has sometimes involved imprisonment, but the law has never allowed a child to be taken out of its mother's arms and forcibly vaccinated.

In 1893 an exemption clause for objectors was enacted. Procedure for exemption was made easier in 1907. Domiciliary vaccination has been, to a great extent, substituted for vaccination at public stations since 1898. The age for obligatory vaccination has been raised in England from 3 months to 6 months, as in Scotland. Revaccination is entirely voluntary in both countries. The practice of infantile vaccination has greatly diminished, owing partly to the remarkable absence of small-pox, and partly to the provision for exemption. In England in 1912 only about half the infants born were being vaccinated, and no doubt there has been further diminution since then. In Scotland in 1916 the percentage of infants remaining unvaccinated was 41.

The doctrine of vaccination has altered in respect of increased recognition of the need for revaccination, and the value of recent vaccination when the disease prevails. Opinion as to the proper age for systematic revaccination has changed in the direction of earlier repetition, 9 or 10 years being substituted for adolescence, especially in presence of small-pox, and when there is appreciable risk of infection vaccination should again be repeated.

In *Germany* up till the beginning of the war such few cases of small-pox as had occurred were largely on the frontiers of the Empire, which were subject to infection from Russia or other ill-vaccinated countries. The internment of two or three millions of Russian prisoners during the war has permeated Germany to an unparalleled degree, and in Berlin in 1917 there were about 4000 cases of small-pox with 400 deaths. Previous to the war the general standard of vaccinal protection was so high that the section of the population which was drifting towards return of susceptibility was largely protected from exposure to infection, but the

war has changed that. The male population of Germany, in so far as it serves in the army, had received the protection of a second revaccination on joining the forces, while the rest of the population has had a single revaccination. Probably most of the recent small-pox has occurred in the latter section. As in this country the civil population of Germany was never subject to forcible vaccination or revaccination. The highest penalty was by money fine or three days' imprisonment, but vaccination and revaccination have been on the same legislative footing, and the population has been well-drilled in obedience to the law.

Calf lymph.—The substitution of glycerinated calf lymph for humanised lymph has been of great value, not merely in relieving parental anxiety, but in making it possible on the shortest notice to provide vaccine lymph to meet the most extensive epidemic. In the pandemic of the early "seventies," not nearly enough lymph could be obtained from the children presented weekly for vaccination to meet the necessities of the general population requiring protection. The Local Government Board is now understood to store lymph to the extent of half a million tubes.

Diminution of infantile vaccination has to some degree been balanced by the increase in revaccination, and the war will have added greatly to the protection of the male adult population, but on the whole the country is distinctly less protected by vaccination than it was even 20 years ago.

Infantile vaccination and the spread of small-pox.—It had been argued in recent years by Dr. C. Killick Millard that while recent vaccination can be thoroughly relied on to protect the individual, infantile vaccination is on balance disadvantageous because it often makes subsequent small-pox so mild as to be unrecognisable, with consequent spread of infection by missed cases. The lecturer did not agree with this view. It would surely be wrong to refrain from protecting one individual against severe or fatal small-pox in order that other individuals, adults or children, should escape the result of omission by themselves or by their parents to secure a safety which is open to all. It was unquestionable that modification, as well as prevention, of small-pox was one of the results of vaccination, and, indeed, was claimed as one of its virtues. It was true also that an eruption of 10 pustules would be more readily overlooked than an eruption of 100 or 1000 pustules, but it must never be forgotten that the quantity of inherent infectivity was correspondingly less—was only a tenth or a hundredth. While a medical officer reporting on small-pox might naturally think of mild cases only as increasing his difficulties in the way of diagnosis, he ought to bear in mind that small-pox is not by any means always recognised in its early stages even if it is severe, and that a single missed case of high infectivity—say, in a vagrant—may make all the difference in the spread of infection. Also, non-notification was sometimes due to concealment, and a mild concealed case would be much less dangerous than a severe concealed case.

The epidemics of 1892–95 and 1902–05 had been so mild that independently of vaccination the difficulty of diagnosis was greater than ever before, so that missed cases were often referred to in medical officers' reports. But easy diagnosis could be obtained at too great a cost. If a missed case is naturally mild it will tend to spread a modified disease. If it is artificially mild there will be reversion to the natural type, and if it be mild the difficulty of diagnosis will correspond. If, on the other hand, it be severe, the desired facility of diagnosis will be achieved in the first group, but at the cost of a heavy attack with disfigurement or even death as a frequent result. Sometimes a mild case does cause considerable spread of infection, but in other instances various medical officers had recorded their surprise at the remarkable absence of infection. So far as mild cases did spread the disease, it was mainly by indoor infection. Outside, in the streets of a town, they seemed to do little harm. The lecturer gave various examples in support of this view—in Bristol, Derby, Halifax, Dundee, Sydney, Dunbartonshire, and Stirlingshire. In the metropolitan area the type in the epidemic of the early "nineties" was mild, while in 1902–05 it was severe. In the latter period public health organisation was better developed, and with the severe, and therefore easily diagnosed, type of the disease the cases, according to the thesis under discussion, should have been much fewer than in the mild epidemic of 1891–92, with its difficult diagnosis and its inferior protective organisation. But, in fact, the very opposite had been the case. There was much larger prevalence in 1901–02 than in 1892–93. Possibly, however, other unknown factors were at work. The very mild small-pox of America, notwithstanding the constant traffic across the Atlantic (the journey taking less than the incubation period of the disease) had not resulted in any epidemic in this country since 1902–05. The similar mild type in Sydney in 1913 had been carried into 27 country towns or districts, but the total diagnosed cases in all these amounted only to 52. Gloucester's epidemic of 1895–96 was severe, and therefore easily diagnosable, but Gloucester would have been much better if its population had had the benefit of systematic vaccination in infancy. Spread of scarlet fever through unrecognised cases furnished a false analogy. The infection of scarlet fever was now believed to be much more from the throat than from the skin, and there might be a scarlatinal throat with practically no skin eruption. The analogy of small-pox inoculation was also unsound. Inoculated variola was an infectious disease, vaccinia is not.

The effect on the condition of the community of the discontinuance of infantile vaccination had to be borne in mind. Under exposure to small-pox the proportion of vaccinated persons infected is much less than of unvaccinated. For nine or ten years after infantile vaccination, especially if sufficiently performed, the individual has a large degree of immunity not only against death but also against attack, and the protection in diminishing degree continues much longer, especially against death. The fatality rate of small-pox in childhood is exceptionally high, but it is childhood which is specially protected by infantile vaccination, and children allowed to remain unvaccinated in the interests of easy diagnosis would be more likely to have a fatal attack than if the disease were deferred till later years. This would be part of the price of easier diagnosis.

There was, however, one conceivable condition which would not only justify, but demand, the cessation of vaccination. If small-pox were to disappear, so also manifestly would the need for vaccination, and the marvellous decrease of the disease since the close of the outbreak with which this century began makes such a possibility, however remote still, yet apparently less remote than ever before.

CONTROL OF SMALL-POX IN THE PRESENT DAY.

In discussing the control of small-pox in the present day it was necessary to take account alike of attack and of defence. As to the former, small-pox is a less fatal, a less infectious, and a less prevalent disease than it was half a century ago. The disease is not infectious in the incubation stage. Its infectivity is limited in the pre-eruptive stage and does not reach the maximum until vesiculation and pustulation. It is not conveyed by water-supply or drainage; milk epidemics are unknown; and there are no chronic carriers. Epidemics often begin slowly and allow an appreciable period for urgent preventive measures. The modern method of small-pox control consisted of the following items: Vaccination, compulsory notification, a sufficient public health staff, surveillance of contacts, isolation of cases, disinfection, local coöperation and central coördination.

Vaccination and revaccination claim the first place, and under the system of calf-lymph supply, material was very quickly available to meet any emergency. Also the vaccinal process runs a shorter course than the incubation stage of small-pox, and if the operation be performed within two or three days after infection vaccinia gets home first. Revaccination, however, may fail and adults engaged in manual labour may have some inflammation around the vesicles, though this can largely be guarded against. To enable a newly vaccinated workman to get a few days' rest many health authorities make a small money payment. The immunity obtained by recent vaccination is of the highest degree, as was strikingly exemplified in Glasgow in 1901–02.

Vagrants are a special source of danger and a constant difficulty against which legislation has not yet provided any sufficient remedy.

Notification.

Notwithstanding opposition various local authorities, by means of local Acts, began to obtain powers of compulsory notification from 1876 onwards. Under the adoptive Act of 1889 any local authority could obtain these powers, and the law became compulsory in 1899. Notification is of

essential importance. Fifty years ago the knowledge which came to the public health officer was casual and fragmentary. Now there is no disease which the medical practitioner is more certain to report than small-pox, whether actual or suspected. Diagnosis is essential to notification, and every opportunity should be taken of demonstrating the characters of the disease alike to students and practitioners. Action taken by the Royal College of Physicians in 1887 had resulted in the Metropolitan Asylums Board's hospitals being made available for education, and so also it is now in respect of small-pox hospitals throughout the country generally.

Public Health Staff.

Here there had been great improvement since 1870. At that date there was in Scotland only a single whole-time medical officer of health. Facilities for the study of disease prevention had immensely increased, and medical officers and sanitary inspectors were infinitely better acquainted with their duties now than half a century ago; also there were far more of them.

Surveillance of Contacts.

Surveillance of contacts was no doubt attempted in rudimentary fashion even in the epidemic of the "seventies," but there could be nothing in the least approaching thoroughness until notification became compulsory. The first period in which surveillance could be practised on any large scale was in the epidemic of 1892–95 by authorities who had adopted the Notification Act, and reports show that it was well carried out in many places. Investigation was required as to the source from which the first notified case had been infected, and also as to every contact, indoor and outdoor, the indoor contacts being under much greater risk of infection than the others. Contacts did not require to be seen daily during the incubation period, nor even to remain off work, until the critical days had arrived. There is at present no power to compel them to remain under conditions permitting regular observation, and in common lodging-houses it will often profit a health authority to make a small payment to induce contacts to remain.

Reception houses for individuals and for families are useful in large towns, but are much less necessary in the country.

School closure is a question of circumstances. The lecturer had never himself closed a school for small-pox. Contacts are naturally more difficult to supervise in the case of a migratory population, in the East-end of London, for example, as compared with the residential parts of the metropolis.

Isolation.

One of the earliest advocates of isolation as a supplement to vaccination was Sir James Y. Simpson in 1868. Simpson stated that Jenner's immortal discovery was saving from death probably 80,000 lives annually, but that about 5000 still died from the disease, and though better attention to vaccination would reduce this number, yet in the meantime the disease still revelled with fatal power. He proposed four regulations:—(1) Notification; (2) seclusion at home or in hospital; (3) the surrounding of the sick with nurses and attendants immune by cow-pox or small-pox; and (4) disinfection. He thought isolation might be conducted either at home or in hospital, and that the stage of infection of small-pox was not reached for some days after the eruption appeared. In this he was mistaken, but excepting that he made no mention of contacts, his scheme showed a characteristic grasp of essentials. Simpson's proposal had been put before the Royal Commission on Vaccination without any hint that he had made any reference whatever to vaccination, and the dissentient members of the Commission had not been aware of this, so that in their Statement they also made no reference to Simpson's views on vaccination. Their statement again had been relied on by Dr. Millard, and so the omissional error was being perpetuated. Others, Dr. George Buchanan and his successor, Dr. Thorne Thorne, had also urged the value of isolation, which at that time was being denounced by antivaccinationists no less violently than vaccination itself. Nowadays, however, it is advocated by them almost as if it were a discovery of their own, and could be a substitute for vaccination. Small-pox hospitals would be needless if vaccination and revaccination were universal, and would be useless if there was no protected population from which a hospital staff and all connected with isolation measures could be recruited. Hospitals at first, owing to their situation and management, had been centres of infection, but now they were themselves isolated as well as isolating their patients. The amount of accommodation required for any given community could not be specified beforehand, but there should be a sufficient administrative block and a sufficiency of ground to enable rapid extension. Their proper management involved many details which were dealt with in the lecture.

Occasionally, even yet, a local authority was without separate accommodation for small-pox, and in emergency the medical officer had to devote to small-pox a hospital for ordinary infectious disease. This could sometimes be done by setting apart for separate purposes the several hospitals in a given area. If, in the absence of any alternative, small-pox had to be treated in a pavilion in the same grounds with wards for other infectious diseases, the vaccinal condition of all patients had to be noted and such action taken as was required. Where a small-pox epidemic gets out of hand, as was the case in Gloucester, Dewsbury, and Middlesbrough, hospital isolation breaks down, and control has to depend solely on vaccination and revaccination.

Disinfection.

Disinfection in small-pox has to be very thorough, and in the case of bedding destruction is safer than disinfection, though the problem is difficult in a common lodging-house or navvies' hut, where the same individual may have used two or three beds in succession, or where the sleepers may change from night to night.

Local coöperation and central coördination must not be neglected. The medical officer should inform his colleagues in surrounding areas and should intimate the date of exposure of contacts, so as to guide action and save time. The Local Government Boards of England and Scotland require that every case be reported to them, and they intimate to such authorities as may be concerned. Also, they usually send an inspector to assist both in diagnosis and in administrative and preventive measures generally.

In illustration of the application of the modern method of control in rural areas an account was given of a small-pox outbreak among navvies during the construction of the West Highland railway in Dunbartonshire in 1892–93.

Leicester and small-pox.—No survey of the present-day control of small-pox would be complete without reference to what had come to be known as the Leicester method. In 1887 the lecturer had ventured on a prophecy as to what might befall Leicester under its method, and the prophecy had been repeatedly quoted, but always with omission of the fact that it was a conditional prophecy, the test stipulated being the recurrence of an epidemic like that of 1870–73. That test had never been applied. But as regards Leicester the essential facts were, that small-pox is not now in respect of fatality or infectivity or of prevalence the same virulent disease that it was formerly, that glycerinated calf lymph is now easily available for any amount of emergency vaccination, and that the Leicester method as expounded by its protagonists a quarter of a century ago differed in fundamentally important respects from the method now followed. In addition to the excellent practice of observation of contacts, which was creditable to the medical officers concerned from about 1877 onwards, it had been claimed for the Leicester method (1) that it was without recourse to vaccination; (2) that the whole method was voluntary; (3) that the same hospital was used for small-pox and all other infectious diseases at the same time; (4) that the same hospital was also used for the (voluntary) quarantining of contacts; and (5) that compensation for loss of time of contacts was not offered. Every one of these five items had been given up, though indeed as to the first, vaccination never had been entirely dispensed with, and the extent to which it was now used was indicated by the fact that in the last epidemic the medical officer had induced nearly 800 out of 1084 contacts living in infected houses to submit to vaccination.

As to compulsion it is unbelievable that the medical officer lets any patient fit for removal remain at home if the public is thereby endangered. The use of the same hospital for small-pox and all other infectious diseases was abandoned in 1892, and the quarantining of contacts at the hospital was given up in the following year. Compensation for loss of time is now declared to be one of the special

features of the method, while originally the declaration was just the opposite. It is not vaccination but the Leicester method in most of its features, which has been abandoned in Leicester. At the same time small-pox has become less fatal, less infectious, and less prevalent, and under these conditions Leicester had only 355 cases in the epidemic of 1892–93 and 715 in 1903–04, showing that with the mild type of small-pox which prevailed in the provinces in these two epidemics the modern method, which has taken the place of the Leicester method, can achieve some measure of success even where there is a large unvaccinated population, and where pressure towards recent vaccination is applied only to contacts.

The Leicester medical officer of health had in 1904 prudently made the reservation that perhaps Leicester had been lucky in having so mild a type of small-pox in its two epidemics. More recently he had scouted his own reservation as to luck. But in fact Leicester, just like the provinces in general, had been visited by mild small-pox of the American type. Leicester, however, had really been fortunate in respect of the skill, activity, and vigilance which had distinguished the work of Dr. Joseph Priestley in the earlier epidemic and Dr. Killick Millard in the later. That had constituted Leicester's luck.

What of the Future?

More than a quarter of a century ago the lecturer had speculated as to whether small-pox might not die out in the future as leprosy had done, but he had argued then that epidemics had been too recent and too severe to justify any assumption to that effect. During the quarter of a century that had elapsed since that speculation had been indulged in the position had vastly improved, but even yet one did not dare to assume that the danger had become negligible or had disappeared. No epidemic, such as had followed the Franco-Prussian War, had up till now been a sequel to the European War, and the return of the revaccinated armies to this country would really improve the general position as regards national protection. There is, however, a substantial risk of importation by persons from countries like Russia or Poland, with which communication is again opened up.

Wars have been followed by various pestilences amongst the civil population. As recorded by Dr. Prinzing, bubonic plague, typhus fever, dysentery, typhoid fever, and small-pox have been concomitants of great world struggles. The virulent pandemic of influenza has so far been the only outstanding accompaniment of the greatest of all wars, though in Germany, as already noted, the enormous number of Russian prisoners introduced the infection of small-pox, which obtained more hold than that country has ever experienced since it adopted its great system of vaccinal protection. It is too soon yet to prophesy that we have seen the last consequences of the European War in respect of epidemic disease. If, however, small-pox were to invade this country the measures at our disposal and our preventive equipment generally should enable us to deal with it, despite the fact that on the whole we are going back on, rather than developing, our position in regard to general protection obtained beforehand. If the disease is of the mild or American type with low infectivity it is all the less to be feared. If, on the other hand, the old European type of the "seventies" should begin to develop the means for meeting it are at hand. If vaccination and observation of contacts, supplemented by isolation, disinfection, and other measures for checking epidemics, were to prove insufficient, then he had no doubt that the spread of infection would result in the general adoption of the one solitary measure capable of controlling an extensive epidemic. That measure is vaccination, but it will be all the greater triumph of vaccination if even a limited resort to it under the modern method suffices to prevent any outbreak from assuming epidemic or pandemic proportions. Just as Lister's antiseptic system finds its greatest triumph in the aseptic system which evolved from it, in the same way success of the modern method of small-pox control will be the greatest triumph of the Jennerian prophylaxis.

BRISTOL CHILDREN'S HOSPITAL.—Mr. H. H. Wills has recently presented over an acre of land immediately adjacent to the Children's Hospital for the benefit of that institution. It is proposed to erect a nurses' home for the staff of the hospital.

THE FUTURE OF THE TUBERCULOSIS PROBLEM.*

BY P. C. VARRIER-JONES, M.A. CAMB., M.R.C.S., L.R.C.P.,

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IN his opening remarks the speaker said:—I will attempt to deal with a part of the problem only—a part in my eyes perhaps assuming undue proportions and importance, but a stone which, if built into the building we are all striving to erect, may assist in strengthening the structure and help to make the work of others easier and its completion somewhat nearer of attainment. A broad view of the whole of our problem is essential, but at bottom the problem is one of the individual. One consumptive may resemble another in the extent of the lesion in the lung, but differences of temperament, character, social position, not to mention varying degrees of resistance to the disease, exist and have always to be considered. Of course, the problem has its financial side, and a very important side it is, but it cannot be insisted too strongly that the question at issue is of far greater complexity, and unless this is recognised all our calculation is work in vain. All of us are aware of the extent of the problem. The question is, can we prevent the spread of infection without which there can be no further extension of the disease?

Inadequacy of Present Measures.

It is unfortunately necessary at this stage to clear the ground somewhat, for there still exists at the back of the minds of some a doubt as to the infectiousness of the disease. We here, no doubt, are firm believers in the infectivity of tuberculosis—that it is contagious, that the spread of human tuberculosis (i.e., infection with the human bacillus)[1] is by direct, or in some cases indirect, means from one human being to the other. We give this hypothesis our lip service. Our words do not come up to our faith. We have certainly honoured the statement, but in the breach rather than in the observance. How often do we hear that the chief rôle of sanatoriums is that of education; that the patients who are discharged after a short stay have been instructed in the way of life and know how to live a life perfect in hygiene and adapted for the prolongation of working days. But what opportunity have they to put the precept into practice? Are not veritable sources of infection everyday, sent broadcast over the land? What steps are taken to prevent the spread of infection when we allow these unfortunates to wander at will? No doubt we keep the spark of life alight by small doles of money or food, we find underpaid jobs for them, we allow them to be exploited in the labour market, and we give all these endeavours a name of high-sounding quality and call it "After-care."

We all know how rapidly a consumptive who has had treatment at a sanatorium descends the social scale. The interval between treatment in an institution and the case becoming "advanced" is often very considerable, and it is throughout this time that nothing, absolutely nothing, adequate is done to prevent infection. Of course, I shall be told that I have forgotten our important service of health visitors and sanitary officials, who are daily making strenuous efforts to prevent the spread of infection and with much labour are paying daily visits to the homes of these people and instructing them in the way they should go. I agree, but they are engaged on a superhuman task; the patient's life is so varied, the circumstances so changeable, that it is impossible to secure an amount of supervision that can have any appreciable effect upon the spread of infection.

The middle case, coughing often—whether at work or in the home, or in places of amusement,—is an ever present source of danger and, unless sufficiently isolated, must be a centre from which dissemination of the disease takes place. The treatment—a term as elastic as it is vague, for in its true sense it can have no meaning when it refers to a consumptive patient in bad surroundings—is of no avail in preventing the spread of infection.

* A paper read before the Royal Institute of Public Health.

[1] The bovine bacillus being responsible for a very small proportion of pulmonary tuberculosis, probably not more than 1 per cent. (Cobbett).

The Difficulty of the Problem.

If it were our object to perpetuate the disease, there could surely be no more certain method than the one we now adopt. We have, indeed, adopted a faith blindly, or we do not accept a faith we profess. To say that it is difficult to convert our faith into works is to beg the question. That it is difficult should not make us shut our eyes and go gaily on in the opposite direction.

It may, of course, be the fear that after all we are not quite sure that the disease *is* infectious, for what is the evidence? Or, again, it may be the knowledge that the task to which we have put our hand is, indeed, impossible of attainment. In other words, we accept it as quite impossible to control the sources of infection, and that these sources are so numerous and unknown that no method of segregation could be devised to include not all, but even a small proportion, of them.

Is it a fact, for example, that just as there are carriers of the germ of diphtheria, so there are carriers of the tubercle bacillus, who go through life without any symptoms which might at any time attract attention, and yet are the means of handing on the disease to several, nay many, persons. I might illustrate the point by a concrete example. A Cambridge undergraduate, a fine athletic man, developed what was diagnosed as an attack of influenza. Its course was prolonged and there was cough and expectoration. The sputum was repeatedly examined, with negative results. The patient recovered completely. Some months afterwards he suddenly coughed up a mass of sputum, and being of a curious turn of mind brought it to the pathological laboratory with a request that it should be examined. Under the microscope the specimen was almost a pure culture of tubercle bacilli, so numerous were the rod-shaped organisms. The patient was apparently in the best of health.

It may be argued that such a case would be very difficult to discern, very difficult to isolate, and it may well be that amongst the well-to-do, those who live under the best conditions, the disease is spread by such an individual as I have just described.

Tuberculosis Does Not Weed Out the Unfit.

That insanitary houses, want of food, lack of the necessaries of life are not the only predisposing causes of tuberculosis seems clear, for tuberculosis takes its toll from the rich as well as from the poor, from the athletic as well as from the poorly developed. This leads me to another point. It is often argued that tuberculosis is the great means adopted by nature to weed out the unfit. Such a statement is grossly inaccurate; it has done incalculable harm in preventing our legislators and the public at large from seeking the adoption of right methods of dealing with the problem. Tuberculosis never has been, and never will be, the means of improving the race—no disease has ever helped to such an end, and no disease ever will. It is the victim of tuberculosis, when that disease has worked its will, and not until then, who is the unfit. He has been made unfit by the disease, he was not unfit before he was attacked.

Recently, making a careful examination of the histories of all the patients admitted to the Cambridgeshire Tuberculosis Colony, it came as a surprise to me to find how high was the percentage of men who had led an athletic life before they were attacked by the disease. Many were conspicuous for the skill they had once displayed either on the football field or in some other strenuous pursuit. Looking back at one's own undergraduate days one is struck by the news of the illness, or even in some cases of the death from tuberculosis, of those whose physique was universally admired and whose prowess in athletics was specially commented upon.

Again, amongst soldiers discharged from the Army suffering from pulmonary tuberculosis it is the exception to find that those who are admitted for treatment are those who were placed by the Recruiting Medical Boards in Grade 3. Upon investigation it is clear that the men who are now invalided out of the Army on account of tuberculosis are those whose physique was particularly good and whose general condition gave no easy or obvious clue to the presence of a lesion of a tuberculous nature in the lung. Would it not be well that this investigation should be prosecuted in other localities? Were this done I have little doubt that my Cambridgeshire results would be confirmed.

We know that those who have an exceptionally well-developed brain, those endowed with mental capacity far above the average, fall a prey to the disease in no fewer numbers than do those not so endowed. We have merely to call to mind such names as John Adington Symonds, John Richard Green, Shelley, Keats, Chopin, Mozart, Robert Louis Stevenson, Jane Austen, Charlotte Brontë, and Washington Irving, amongst a host of others, to convince ourselves that if the brainless ones are often attacked by the tubercle bacillus, those to whom genius has been attributed are attacked in equal, if not in greater, proportion.

Look at the question how we will, we are forced to the conclusion that the tubercle bacillus is no respecter of persons, the strong and the weak alike are attacked; there is no question of any special susceptibility of the feeble and the weeding out of such in order that the race may be improved. The error so widely promulgated has done incalculable harm.

The Method of Attack.

The crux of the question is the problem of the "middle case." First the spread of infection must be limited. Our energies should be concentrated not so completely on the symptoms of the diseased—those who have well-defined symptoms and signs, in whom the lung tissue has broken down and by whom the bacilli are freely expectorated—in futile attempts to "cure" individuals. Rather must we devise and press forward a comprehensive scheme whereby the individual for whom we are arranging to care shall be placed in a position in which he may have the advantages of treatment which may bring about the arrest of the disease whilst at the same time he shall be rendered inert as an infective centre to the community. When we as a community realise that the segregation of consumptives during treatment can be made a practical proposition we shall have advanced a long way towards the elimination of infection. The advice to treat early cases is excellent, but until the mass of medical knowledge accumulated is sufficient to ensure this advance little progress along these lines can be made, though all efforts to attain it should be encouraged.

The greatest difficulty met with in carrying out after-care of the majority of these "middle" cases is the provision of suitable employment and occupation for them. Any frequently recurring breakdown, any lack of sustained energy, any want of power and physical force must unfit the worker to "carry on" under the ordinary workaday conditions in which the normal person works. No one realises this more fully than does the consumptive. Why, then, does he try to exist under such conditions? Simply because there are no others under which at present he can exist. No practical proposition has been placed before him. To maintain these cases in moderate health the equivalent of a living wage they must have, although they cannot be employed when a profit-and-loss sheet has to be drawn up and balanced. We cannot expect them to be a paying proposition. I have always maintained, and I believe that I have been justified in maintaining, that the labour of a middle case of consumption must be subsidised and that many of our failures in the past have been due to the fact that, consciously or unconsciously, we have always taken the consumptive at his face value. We have been too much influenced by appearances and feel that he ought to do more work than can really be expected of him.

We have only to glance at a group of consumptives to feel almost convinced unless we are "on guard" that they are a group of slackers. They appear so fit. Yet on applying the stethoscope our opinion is, or ought to be, instantly modified. Patients suffering from epilepsy are utterly incapable of earning a living under present economic conditions; a consumptive with moderate disease is in exactly the same position. We must bring our minds to realise this. When we have also educated the consumptive to realise this, we shall soon recognise that both from the individual point of view and from that of the community *we must call into existence a set of conditions suitable to the patient's needs.*

Such conditions are to be found in a colony. We must realise, difficult though that may be, that the medicine of yesterday has been satisfied with the treatment of symptoms, with the relief of individual suffering. In tuberculosis, at any rate, is it not time we started at the right end, to give up trying to heal symptoms, to catch up in a losing race?

Provisions Required at Colonies.

Colonies to be successful, to meet present needs, must include the sanatorium or rest house, and must extend the activities of sanatoriums both downwards and upwards. They

must receive advanced cases that will not consent to enter a home for the dying, but will grasp at the last straw of hope such as can be held out at a sanatorium. Opportunity for healthful work and healthful surroundings must be offered to those unfortunates who can no longer compete with the fit men in the world at large.

The early cases receive treatment and training, and with the added inducement of remunerative work may be kept under prolonged treatment and fitted to return to the world with the disease arrested. But the whole system must be linked together into a concrete whole. The usual conception of a colony is a place where tuberculous cases can be sent, there to work for a wage which is little more than pocket money, but where there is no room for cases that present any physical signs of disease. Indeed, so limited becomes the selection, due to the rigid medical examination, that few cases can be submitted to this special building-up process; and when to this is added the enormous difficulty of persuading a man to undergo training while a wife and family live on the bare necessities at home, we see that if this conception be accepted the scheme must be of very limited scope, more limited even than that of the sanatorium. When, further, we consider that no practical man believes that he can be trained as a practical farmer or small-holder in a few months, and that even 12 months is not sufficient, we begin to appreciate the reason that so few men will consent to undergo the ordeal.

We know and they know that a poorly trained man stands no possible chance of earning a living wage in the open labour market, and a poorly trained consumptive even less. It is obviously far better for such an early case (I am speaking of the tubercle-free patient, devoid of physical signs—the usual candidates for such a colony) to be so financed by an after-care association on the Cambridge principle that he may continue to work at his own or some allied trade. As yet he is not a danger to the community; when he does become so, if under dispensary supervision, he can be persuaded again to enter an institution.

The Case with Active Disease.

When we come to deal with cases of the next category the story is very different. The man has active disease, albeit somewhat retarded by treatment at a sanatorium. He is refused admission to a colony such as that just described, he cannot without a serious relapse return to his original trade, he cannot be suitably helped from outside by an after-care association as his relapse is certain, and because of the extreme difficulty of finding suitable employment for him. These are the cases which, unfortunately, are now assisted with small doles of money and food and an underpaid job. Better far that such assistance should cease and the patient become an inmate of an institution. The man receives but palliative treatment, and the community no real protection against infection.

The pity of it is that we do not realise that under favourable and well-defined conditions the patient is capable of doing more work. Such a case should, indeed, excite our sympathy. Here a man obtrudes himself on our notice six days out of seven—a man who cannot find his place in the world, but who, left to his own devices, disseminates the disease to his family or neighbours and fellow members of the community. He is the central factor in the problem of tuberculosis, a far more important factor than the advanced case—the bedridden case—where, although the danger of direct and concentrated infection is greater, it is so circumscribed that it is limited to a small—family—circle.

In the past we have been content to limit our endeavours to the favourable case and to leave untouched—untouched as far as effective treatment and the prevention of infection are concerned—the middle case. The reason for this is not far to seek, we have been blinded by the transitory results of sanatorium treatment and have shut our eyes to the wreckage which such treatment has left in its trail. Very naturally we have no liking for disappointing results. The individual case which goes steadily downhill is, it must be confessed, a disheartening proposition if we are content to focus our attention on the treatment of the individual.

It is obvious that our attention should not be so focussed, but that we should survey the whole field in order that we may make up our minds, for if we do not so make up our minds somebody else will soon do it for us, that it is necessary, in the name of humanity and to protect ourselves, to care for these cases. Once we view the problem from this standpoint and grasp the essential fact that the disease is spread by the middle case, we cannot escape the logical conclusion that such cases demand our care and attention, *and at once.*

Admitting all this, the fear still possesses us that so gigantic a problem requires almost superhuman effort for its solution. Sir Arthur Newsholme holds that by the admission of advanced cases from amongst the poorer classes into the wards of certain infirmaries the spread of the disease has to a certain extent been lessened. Surely this points the way to the next step—the segregation of these middle cases in colonies, where, with the best chance possible of recovery, they also cease to be a source of infection to others. If by the voluntary segregation of advanced cases a perceptible improvement has been made, is it not logical to assume that we may expect still greater improvement when some method of segregation is found for the middle cases, those who find themselves stranded and unfitted for the struggle of existence in the world as at present constituted.

The Method Adopted at Papworth Colony.

Objections and reasons that such a proposal as that of the Cambridgeshire Tuberculosis Colony must be difficult of realisation are, of course, put forward. Allow me to take, as a concrete example, Papworth Colony, where experiments are in progress to test the conditions under which men will remain in the country although used to town life, and not town life only, but London life.

My experience is that the first great question to be considered is that of a wage, or payment for work done. The difficulties surrounding this question are many and complex. To begin with, we are confronted by certain provisions of the National Insurance Act in which it is expressly stated that any man working for a wage forfeits his sickness benefit. Latterly, however, since it has been the practice in some institutions to allow patients to work, the dividing line between remunerative and non-remunerative occupation becomes difficult of definition. No objection can be raised to the institution paying to an after-care association a subscription equivalent to the value of the work done, nor can there be any objection to that association paying over to the patient a sum of money to supplement the sickness benefit and thus enable his dependents to live in decent circumstances while the man is under treatment.

This plan has been adopted at Papworth with success. This method of procedure opens out very considerable possibilities, especially for the ordinary insured person. The usual plea put forward by an insured person, especially a married man with dependents, is that it is impossible for him to live in luxury at a sanatorium while his wife and children at home are asked to exist on 10*s.* a week, a sum sometimes supplemented by a dole from the Charity Organisation Society, but an extremely unsatisfactory method. In the method adopted at Papworth, the sickness benefit can be augmented within limits by *the man's own earnings*, and he has the satisfaction of feeling that even whilst undergoing treatment he is making a definite contribution towards the upkeep of his family. This method is new, but I hope and believe it will be found to be thoroughly sound.

It will thus be seen that a very definite link is forged between the colony and the after-care association. The inducement to earn a wage is so great, however, that it is difficult to restrain the men from doing more hours of work than are prescribed. So contrary is this experience to that of sanatoriums that I fear I may not be believed, but it is a fact. In our boot-repairing department during the first two months, while the patients were apprentices, it was a matter of surprise that the men could earn 12*s.* per week of 32 hours, at the rate of pay current for boot repairing in Cambridge, and this rate the men receive. Further, the two apprentices, one a Limehouse labourer, the other a college cook, have been taught by a practical boot repairer—a London patient. This man has not only taught these men, but has *earned* his money as an instructor at the same time.

The Solution of the Question.

This makes clear four points: (1) That to change a man's trade is a practical proposition; (2) that the work can be carried on under proper hygienic conditions; (3) that the public have no objection to having their boots repaired by consumptives; and (4) that the labour must be subsidised to

make it a practical proposition for the working man. The moral to be drawn from this is, that once a practical proposition is placed before these men—a sound commercial proposition, not one from which they think the institution is making a profit out of their labour—they will seize the opportunity, for they know they are benefiting both from a health point of view and financially; but unless you can make the latter clear you can expect no success. I must again insist that these men are "middle" cases; that they have tubercle bacilli in their sputum, and are cases which, left in their ordinary surroundings, would soon fall to the bottom of the scale.

When we take into consideration the fact that these men, being ex-soldiers, have a full pension of 27*s.* 6*d.* per week, it cannot be a matter of surprise that they consent to remain. We have stated that the colony can and does offer better conditions of work and that these involve no impairment of a man's self-respect. Applicants, of course, are not wanting, but the State has the assurance that in return it is getting a good bargain in the elimination of infection,

Similar results are being obtained in other departments, and from them it is possible to draw only the same deductions. The difficulty is that of demand and supply, and it is here that great effort is needed and a very good business brain required, but at present inquiries for goods and orders placed with us keep the departments busy. It will be said that this is the greatest difficulty of all, but it has been repeatedly stated that the greatest difficulty was to get the men to work. Having demonstrated that this is not the case, I have confidence that the other difficulty will also be got over.

The real solution of the question is a State subsidy for tuberculous labour and the introduction of labour-saving appliances to lessen the disadvantage under which a consumptive suffers. If that labour can be turned to account, not in the way of reducing the cost of running an institution—who ever thought of reducing the cost of a hospital by employing chronic invalids on the staff?—but in making it contribute to the wage of such labour, the other part being forthcoming from the State as its share of payment in return for the prevention of infection, it seems to me that the problem is well on the way to solution.

In any case, let us get rid of the fallacy that tuberculous labour can be made to pay; *of the idea that all the money paid by the State is for the alleviation of symptoms.* Further, let us concentrate on humane and voluntary segregation by making it so attractive that few consumptives will face the difficulties and dangers of open competition if they can take advantage of the facilities now provided. Public opinion, educated on these lines, will soon insist on being rid of a source of infection so dangerous to its well-being. Once the facilities are offered, if offered in no miserly spirit, we may see the dawn of a new era in the treatment (using the term in the widest sense) of the disease.

Work in Other Departments.

The results of the carpentry and joinery departments are of considerable interest. At the head of the carpentry department is a trained carpenter and joiner, who directs the work and instructs the patients. We are now convinced that useless work put forward merely as training is waste of time and energy, but we find that immediately a patient comes to the shop he is ready for light work on a definite job. We have, however, to reverse the usual process of training, for in the colony workshop he is instructed in the fitting together of parts which have already been prepared by those who have been longer at the work and have been passed on to the heavier grades of labour. In other words, the process is reversed, but by means of a method whereby a patient is set to make one particular part—in fact, is placed on repetition work—no time is lost and his labour is at once remunerative. His interest is also immediately aroused, as his skill develops so his strength increases, and the two factors combined place him on a higher scale of productive work.

It is my experience that very few patients fall below the 25 per cent. standard even at the beginning of their instructional career, and the percentage increases monthly. On repetition work they may ultimately attain an average of 50 per cent. and even rise to 75 per cent. I suspect that our method has, perhaps unconsciously, been based on the experience of munition works, but from whatever source it has come it undoubtedly meets with very considerable success.

Up to the present time disposing of our produce—shelters—at the price quoted in the open market, we could during the major portion of the time have paid a wage not much below the trade-union rate. As an example, I would take the accounts of the last year to illustrate the financial side of our industry. The total receipts of the carpentry department allowed of a profit of 20 per cent. to be paid in wages. There were working in the shops during this period 12 unskilled patients, and after paying instructors' wages there was a considerable sum available for division, as a wage, amongst the 12 patients. In order to safeguard ourselves when we come to undertake other work—we have brought the shelter-making repetition methods almost to a fine art—we stipulate that if we must turn out work at a competitive price we must have a subsidy of 10 per cent. to 15 per cent. in order that we may pay our patients the wage desirable and necessary. We have not needed this subsidy so far, but our success must not blind us to the fundamental fact that tuberculous labour must be subsidised, and even considerably subsidised.

The Question of a Subsidy.

The working day is but six hours, and even if the labour could be paid for at a rate equal to that of a trained healthy person, the total at the end of the week would be insufficient to support a man, his wife, and family in the way in which they should live. It will thus be seen that the question of a subsidy is a very necessary and urgent factor in the problem. We must not look upon this subsidy as a dole for the relief of the patient, for on this the amount would, according to our past ideas, be too great; rather must we look upon it as money expended for the protection from infection enjoyed by the community. Far better to have this assurance, than to have the depressing picture of a family in poverty and distress, vainly endeavouring to struggle on with a varying amount of poor relief and charity without any such protection. In a colony such as we are trying to build up at Papworth it is probable that the families of our colonists, being easily accessible, may be so trained and educated that they may be made stronger and safer for the struggle of life than if they were allowed to remain under undesirable surroundings of poverty and want. However that may be, there is hope of a brighter future even though time may unveil some of our errors.

May I close by quoting the words of a consumptive—Washington Irving.

"What after all is the mite of wisdom that I could throw into the mass of knowledge? Or how am I sure that my sagest deductions may be safe guides for the opinion of others? But in writing .... if I fail, the only evil is my disappointment. If, however, I can by any lucky chance, in these days of evil, rub out one wrinkle from the brow of care or beguile the heavy heart of one moment of sorrow. If I can now and then penetrate through the gathering film of misanthropy, prompt a benevolent view of human nature and make my reader more in good humour with his fellow beings and himself, surely, surely, then, I shall not have written in vain."

THE Y.M.C.A. AGRICULTURAL TRAINING COLONY, KINSON, DORSET.

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DURING the summer of 1917 the Council of the Y.M.C.A. established a farm colony at Kinson in Dorset for recently discharged Army men with early or arrested tuberculosis. The Council secured a small property which had served as a private sanatorium, situated some five miles from Bournemouth and Poole, upon sand and gravel soil and enjoying a good record of sunshine and rainfall. The land consists of a farm of 33 acres, made up of 20 acres arable land, 9 of grass, 2 of woodland, and 2 devoted to poultry. The farm buildings include a small house, granary, hay and corn barn, stabling for three horses, cart shed, chaff-cutting and root-pulping shed, cow-house with standing for ten cows, three calf booseys, piggeries, and other buildings.

The colony buildings consist of a central block constructed of brick and tile comprising dining-room to seat 50 persons, recreation-room, lecture-room, kitchen, scullery, stores, linen-room, and other offices. Sleeping accommodation for 22 patients is provided in wooden chalets, each in two sections, containing two beds. The quarters for the resident

staff consist of wooden buildings and a small farm-house. Water and gas are obtained from the local main. The capital expenditure in purchase of property and erection of additional buildings amounted to £4000 approximately.

When the colony was started it was intended to provide the inmates with life under sanatorium conditions and a training to fit them for permanently taking up work on the land. An officer recently discharged from the Army, who had been trained as a farmer, and also had practical experience of sanatorium routine, was appointed resident superintendent. Medical supervision and direction were secured by a weekly visit from Dr. E. Hyla Greves, of Bournemouth. The resident staff included a male nurse and a working foreman. The men admitted mostly came direct from various military hospitals, chiefly upon certificates by the medical officers. Whether at work or not, the men received 1*s.* a day as pocket money.

Scope of Scheme.

Several months' experience showed that the objects of the institution were not generally appreciated by the medical officers who recommended patients for admission. A large proportion of the patients sent to the colony were not such as would benefit from the special educational facilities offered. In consequence, early in 1918, after consultation with the Ministry of Pensions, the training scheme was reorganised, as described in the following leaflet issued by the Y.M.C.A. and the Ministry of Pensions:—

The Kinson Farm Colony, situated about five miles from Bournemouth, provides accommodation for 21 ex-soldiers who have been invalided from the Army on account of pulmonary tuberculosis. It is designed to provide an agricultural training for men who wish to settle on the land either in this country or in the colonies.

1. Applicants for admission must be suffering from *quite early or arrested* pulmonary tuberculosis, provided that tubercle bacilli have been found in the sputum, or if they have not, the occurrence of an attack of pleurisy with effusion or an unquestioned hæmoptysis (of definite amount) must leave no room for doubt as to the correctness of the diagnosis.

2. They must be men whose previous work has been such as would probably aggravate disease and who are, therefore, desirous of receiving an agricultural training.

3. They will only be received from a sanatorium, and must be able to work for at least six hours a day without pyrexia, malaise, or undue acceleration of pulse.

4. They must have shown themselves to be intelligent hard-working men, of good character.

5. They must enter into an undertaking to remain 12 months at the colony.

6. During the year's treatment and training, the pension of the colonist will be in abeyance, but an allowance at the rate of 27*s.* 6*d.* per week will be made for him from which 12*s.* per week will be deducted towards the payment of his board and lodging. He will, therefore, be entitled to a sum of 15*s.* 6*d.* per week, during the twelve months he is at the colony; of this sum it is proposed to pay over to him 5*s.* weekly, leaving the remainder to accumulate to his benefit until he is discharged from the colony, or, should he desire it, the balance may be paid weekly to such dependants as he may select.[1] It must be understood that the amount accumulated will not be payable if the man leaves the colony before the termination of his year, unless the medical superintendent of the institution certifies that there are special reasons justifying it.

In addition to the above allowance, the colonist will be entitled during the last six months of his course to a bonus of 5*s.* per week, provided that he satisfactorily completes the full year's course of (treatment and) training. This accumulated bonus will be paid to each man at the termination of the year's course. And at the same time he may in addition hope to receive a small sum, representing half of any net profits which may have accrued from the farming operations in which he has been engaged; the exact amount of this must depend upon the sum due to him as his share of the profits made on his section of the farm.

Applicants who, from the information furnished on the forms supplied, appear to be suitable are examined by me on behalf of the Y.M.C.A. and the Ministry of Pensions.[2]

The staff of the colony is made up of Mr. Richard Hunt, who has long experience of farming, and as honorary commandant directs the work of the institution; Mrs. Richard Hunt, honorary matron and housekeeper; a secretary, an ex-service man discharged on account of tuberculosis; an orderly, also an invalided soldier; a cook, a kitchen-maid, and a staff-maid. The outside personnel consists of a consumptive ex-soldier, who holds the post of handy-man and instructor in carpentry and engineer's repairs, a "stockman," and a "horse-man" or "carter."

The Council of the Y.M.C.A. are responsible for the maintenance of the settlement, the administration of which they have delegated to the following committee:—Hon. Mrs. Stuart Wortley, C.B.E. (chairman); Cornelia, Lady Wimborne; Corisande, Lady Rodney; Lady Leitrim; Lieutenant-Colonel T. D. Acland, R.A.M.C.; Dr. Noel Bardswell, M.V.O.; Mr. Vivian Young; Mr. F. J. Chamberlain, C.B.E. The Y.M.C.A. management receives from the Ministry of Pensions 30*s.* per week per head, the balance being defrayed by the Y.M.C.A.

The colony has not been established on its present lines for sufficient time to allow of the preparation of a balance-sheet; however, the weekly cost per colonist for maintenance and training does not exceed 30*s.* It is also impossible as yet to estimate the financial result. During the past six months the value of the stock, crops, &c., has appreciated at least 50 per cent., and there is no doubt that the farm is more than paying its way.

The Working of the Colony.

In the spring of 1918 the particulars just given were sent to the superintendents of most of the leading sanatoriums with a request to bring the information to the notice of ex-sailors and soldiers. During the following six months a large number of applications were received, mostly in regard to men not up to the required physical standard; it was not until the late summer that the full complement of 21 colonists was obtained. The following particulars of the first 25 selected candidates may be of interest:—

Salesman, 32, widower.	Hairdresser, 23, single.	Under gardener, 23, single.
Mechanic, 37, married.	Clerk, 23, ,,	Clerk, 24, single.
Shoemaker, 45, ,,	Newspaper vendor, 31, single.	Electrical engineer, 24, single.
Seaman, 21, single.	Dispenser, 27, single.	Shop assistant 20, single
Clerk, 24, ,,	Assistant in surveyor's office, 26, single.	Moulder, 28, married.
Policeman, 30, married	Hairdresser, 32, married.	Purser, 27, single.
Journalist, 27, single.	Shop assistant, 19, single.	Customs agent, 25, widower.
Clothing designer, 33, married.	Clerk, 24, single.	
Grocer's assistant, 22, single.		
Railway clerk, 23, single		

A small waiting list is maintained in case some of the colonists are unable to complete their training. The care in selection has been well justified, since from the point of view of physical capacity, character, and intelligence the colonists represent a most satisfactory class of sanatorium patient. The proportion of married men with dependants, 6 out of 25, is noticeable; but for their pensions and allowances none of these men could have undertaken to stay for 12 months at the colony.

It was decided so to model the scheme of training as to fit the men more particularly for the management of small holdings. The farm was divided into three self-contained 10-acre holdings, each stocked adequately by the Y.M.C.A. in respect of live-stock, implements, building, &c. To each holding were allotted seven patients who worked under the direct supervision of the resident commandant. Careful accounts and records of periodical valuations were kept with a view to profit-sharing. The patients were guaranteed any risk of loss. The advantage of this plan is that it develops the initiative of the patients, encourages industry and interest, and secures practical training. The produce of the farm after the current needs of the colony are met finds a ready market in Bournemouth, where it is sold by auction. All the colonists in turn load up the transport and attend the sales, so as to gain experience of marketing.

The theoretical training includes lectures on soils (varieties of), crops, manures, implements and machinery (of a farm), feeding stuffs, live-stock (horses, cattle, pigs, poultry, rabbits, bees), and fruit culture.

Of the features of sanatorium life there are maintained in the colony routine the three "square" meals, the rest before dinner and supper, and the early bed hour. Temperatures are not taken regularly; should a man feel unwell he reports to the commandant before proceeding to work. The commandant, though not qualified in medicine, has seen

[1] Married men with dependants receive maintenance allowance on the usual scale.

[2] As from Jan. 1st, 1919, the arrangements for admission and period of treatment are being made by the National Health Insurance Commission instead of by the Ministry of Pensions, but this will not materially affect the general conditions of employment in the colony described in this paper.

much hospital service during the war and is an efficient house physician; further, he can communicate by telephone with Dr. Hyla Greves. There is little sickness, and practically no time is lost on this account. The arrangements at the colony are proving the success anticipated. The progress of the patients, as evidenced by gain of strength, the clearing up of symptoms and physical signs of disease, and the disappearance of sputum, is uniformly satisfactory.

Subject to the somewhat exacting nature of farm work, the colonists enjoy a large measure of liberty. There are no bounds, and such amenities and social life as the countryside offers are open to the men. On Saturday afternoons and Sundays, with the exception of the weekly rota of men who carry out essential duties, such as feeding stock, &c., the colonists can go further afield. It is encouraging to note that the men tend more and more to spend their free hours in the country rather than in the neighbouring towns. The colony recreation-room is provided with two small billiard tables, a piano, a gramophone, and other amusements, also the daily papers and farming journals. Without exception the men express their marked preference for the life at Kinson to that at a sanatorium.

Several months' running of the colony on the lines just described revealed some unanticipated difficulties. It was impossible so to divide the farm as to secure land of equal quality for the three holdings. After consultation with the men, whose opinion was almost evenly divided, the three-holding system was, not without reluctance, abandoned in favour of a scheme whereby all the land is worked as a small farm. As now constituted the farm consists of 9 acres of grass and pasture, inclusive of 2 acres devoted to poultry, and 25 acres of arable land, the latter of which includes 1½ acres of orchard, 4 acres under four-course rotation, 2½ acres of market garden, and 1½ acres of permanent catch-crop. The stock consists of 9 cows, several calves, 2 horses, 3 breeding sows, with their litters, and 300 head of pure-bred poultry.

The 21 colonists are divided into four parties which in rotation are appointed to: (1) stock—care of all animals, dairy work, &c.; (2) carting, ploughing; (3) general farm work—all operations save ploughing and horse work; (4) market gardening and marketing; and (5) poultry. Approximately, a squad is engaged under skilled supervision for a week at a time in each department.

A Provisional Estimate of the Prospects of the Colonists.

Briefly, the record up to Dec. 20th, 1918, is as follows: 8 patients have left the colony, 1 on account of disinclination for the life, 3 for breaches of discipline, and 4 owing to physical incapacity. Thus, only 4 men have shown themselves definitely unequal to the work which, day in and day out, is somewhat strenuous and extends from seven to eight hours.

With respect of the adaptability of the men and their prospects, the opinion of Mr. Hunt as practical farmer is of interest. Of the 21 men now in residence, four, in his opinion, are not physically capable of the full training and are unlikely to make independent smallholders. For these men a simple training is indicated such as will enable them to supplement their pension; for example, the care of pigs, fowls, and goats, and some knowledge of vegetable growing and bee-keeping. The remaining 17 men, granted favourable conditions of settlement, all promise to make good; several of them, men of education, would do well to study at an agricultural college with a view to farming on a larger scale.

Taking the men collectively the training has to begin with the veriest A B C of country life. Again, the men, although working for from some seven to eight hours daily, cannot by a considerable margin compass the output of a normal person. Education is slow, and Mr. Hunt states that 12 months' training will not be sufficient save in exceptional cases with previous experience. It is his opinion, also, that to judge by their present standards of knowledge and physical endurance, a small number of the men only on completion of their training in September, 1919, will, if single-handed, be able to earn their living on the land. This renders the settlement of the men a matter for serious consideration. He suggests that on completion of the 12 months' training the most efficient men be found positions as paid assistants upon established holdings in the neighbourhood of Kinson with a view to gaining further experience. But the men are all impatient to start for themselves when their year is up. Another proposal is that the picked men be settled on holdings and that the less proficient be allotted to them as assistants. It is evident that special provision must be made for settling the colonists. To allow them to leave the colony and to trust to their own resources would in many instances spell failure. The conditions of settlement cannot be too favourable; good land, easily worked, markets of easy access, generous landlords, and opportunities for obtaining skilled advice are essential. It is to be noticed that the experience of Kinson supports the view that the vocational re-education of the consumptive, to be of use, must be associated with a scheme for the provision of employment subsequently.

The plan which seems best to meet the requirements of men trained on farm colonies is their settlement as they become sufficiently skilled upon holdings within easy access of the colony, for preference, as tenants of the colony management. This would permit of the coöperation of the several holders and the continued supervision and direction by the expert farmer in charge of the colony; another material advantage would be that when, as will certainly happen, a tenant has need of rest for some days, assistance upon which may depend the success or failure of a season, could be provided by the pupils at the colony.

The ideal that should be kept in view is to enable a tuberculous man, after proving himself on a small holding, to pass in turn to progressively larger holdings, and eventually to become a large farmer employing his own labour. In view of the youth of the general run of the Kinson colonists, this ideal is quite possible. The whole question of the future of the trained colonist and the best means of providing for his settlement is now under consideration by the council of the Y.M.C.A.

RAT-BITE FEVER:

TWO CASES TREATED WITH APPARENT SUCCESS BY A SINGLE DOSE OF NOVARSENOBENZOL INTRAVENOUSLY.

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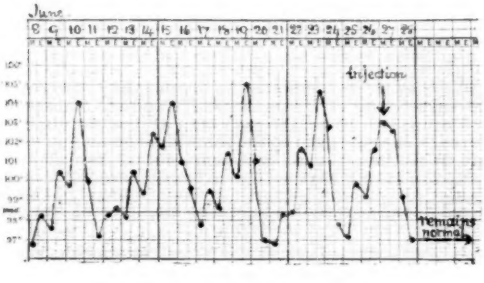
THE two cases here described were undoubtedly examples of rat-bite fever.

Notes of Cases.

CASE 1.—Patient aged 20. Had suffered from pulmonary tuberculosis for last four or five years. Previous to the present attack his lung trouble was quiescent; appetite good; temperature normal; some dullness at right apex in front; no crepitations or signs of activity. Nine weeks before admission to nursing home he was bitten on the left little finger by a rat. Wound not washed for about one and a half hours. Three weeks later the present attack began. Every two or three days the temperature rose to about 104° F. and



Periodic rises of temperature in Case 1.

sometimes 105°. He had severe aching in back and legs; felt cold and shivered; no actual rigor; no rash; skin felt itchy during attack. He occasionally felt sick; latterly mouth was very dry. The lymphatic glands above left elbow and in axilla became enlarged, but now can hardly be felt. The wound healed in a few days.

Blood culture, aerobically and anaerobically, was negative. White cells, 17,000 per c.mm.; polymorphs 90·5; lymphocytes, 7·5; large mononuclears, 2 per cent.; no

eosinophiles. No spirochætes or other parasites seen in stained films. On dark-ground illumination of citrated blood no definite spirochætes were found. One peculiar body was seen—a round body rather smaller than a red blood cell with two long narrow processes which exhibited a wavy motion. I cannot say whether it was an artefact.

At the height of temperature, on June 27th, 0·45 g. novarsenobenzol was given intravenously. The temperature fell and was down for a month. Then for about a week it rose at night; also some swelling of left arm. Since then, up to October, he has been quite well; no rise of temperature.

This case was complicated by the patient having suffered from pulmonary tuberculosis, but previous to the rat-bite this was quiescent. I did not see him in the attack a month after the novarsenobenzol injection, but the attack seemed to have had no resemblance to the former ones.

CASE 2.—Pte. C. H., aged 30, a patient in a war hospital, Exeter. On Jan. 7th, 1918, he was bitten on the finger by a rat. He reported sick in February, and since has had rises of temperature lasting about 24 hours, generally with intervals of four days. During the attacks he lost his appetite, felt sleepy, and had maddening headache. Distinct skin eruption; large raised erythematous patches all over the body; itching severe. He generally vomited during the attack. The temperature rapidly rose (103° or 105° F.), rarely lasting more than 24 hours. The wound healed in three or four days; apparently no enlargement of lymphatic glands.

At Exeter it was discovered that he had been bitten by a rat. On July 12th, 1918, an injection of 0·45 g. novarsenobenzol. Temperature remained normal for a month, then went up to 101·8°. No treatment was applied; since quite well except for a slight attack of influenza.

A differential blood count showed a polymorph percentage of 80. No malarial or other parasites seen in stained films, or by dark-grounnd illumination of citrated blood. On blood culture in one tube a Gram-negative bacillus was obtained slightly motile, forming indol, no liquefaction of gelatin, forming acid and gas with glucose, lactose, and mannite, and negative with sucrose; litmus milk, acid and clot. Evidently a coliform bacillus.

In this case the pyrexia occurred about every five days for over five months. There were no signs of the disease wearing itself out till the intravenous injection.

Causation.

In THE LANCET of Sept. 8th, 1917, I reported a case of "periodic attacks of pyrexia"; a single dose of galyl given intravenously was followed by complete recovery. Professor Tanner Hewlett [1] said how much it resembled rat-bite fever, but there was certainly no history of a rat bite. In THE LANCET of Feb. 16th, 1918, Captain S. R. Douglas, Dr. L. Colebrook, and Mr. A. Fleming report a case of rat-bite fever. A streptococcus having the characters of *Streptococcus pyogenes* was isolated on anaerobic culture from the enlarged glands of axilla. After vaccine treatment complete recovery took place; there seemed every reason to suppose that this organism was the cause of the pyrexia.

In my cases I could not find any spirochætes, unless the peculiar body described might have been a couple of these adhering to a red cell. Its appearance is somewhat suggestive of the *Spirochæta icterohæmorrhagiæ*, found by Dr. Alfred C. Coles in the blood of the common rat.[2] In my second case, on blood culture, in one tube a bacillus having the cultural characters of *B. coli communis* was obtained, but I think this must have been a contamination.

In these cases of rat-bite fever so many different kinds of organisms have been found on blood culture, sporozoa, streptothrix, *Micrococcus tetragenus*, &c., that one cannot help feeling suspicious, considering the fallacies of blood cultures. Spirochætes have, no doubt, been found in blood and fluid from enlarged glands, by Japanese observers, in cases of rat-bite fever. Cases have consequently been treated by salvarsan, which is advised by Professor William Osler.[3] Whether this disease is caused by spirochætes or other unknown protozoon, or is a bacterial infection due to a streptococcus or other organism, is certainly not settled. The marked leucocytosis of polymorph type is perhaps in favour of the latter view.

It would be interesting if in a case of rat-bite fever a definite organism such as a streptococcus could be obtained from blood or gland juice, and then a cure produced by salvarsan. There is, I suppose, no doubt that salvarsan is of great benefit in many cases of pernicious anæmia, supposed by Dr. W. Hunter to be due to a streptococcus. Dr. G. Stopford Taylor [4] describes the benefit of intravenous injections of neokharsivan in cases of tuberculous skin ulcers, lupus, sycosis and eczema, and blepharitis. Many diseases other than syphilis might be successfully treated by salvarsan or its substitutes.

[1] THE LANCET, 1917, ii., 552.
[2] THE LANCET, March 30th, 1918.
[3] Principles of Medicine, 1918.

PROPHYLACTIC TREATMENT OF CONSTIPATION IN CHILDREN.

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THE frequent occurrence of constipation in children is a fact which soon obtrudes itself upon the notice of any doctor conducting an infant welfare consultation. And considering the bearing this condition has on the health of the child in later years, an endeavour is made here to give a few suggestions which may prove helpful to those in charge of a welfare clinic.

Definition of the Term.

First of all the exact meaning of the term "constipation" must be clearly understood. Inquiry often elicits the information that a child's bowels move every day. But this is not enough. A sufficient motion should occur each time. A child may pass a small stool each day and still have a loaded rectum. If the stool consists of small dry pieces it is almost certain that the rectum is not being emptied thoroughly. Constipation means that, for some reason, the rate of propulsion of the bowel contents and the amount expelled are below normal.

Before constipation—threatened or present—can be diagnosed, a knowledge of the characters of a normal stool is necessary. For the first few days the infant's bowels may move two to six times per day. The stool consists of meconium—a viscid, tarry-looking substance, almost odourless or only possessing a faint inoffensive smell. The colour gradually changes to an orange-yellow. In bottle-fed babies the colour may be lighter at first owing to dilution of the feeds, but the colour becomes darker as the feeds become stronger and contain more fat. The number of stools per day is not so important as their character. If the colour is good, smell inoffensive, consistence soft, and no straining, one motion per day is satisfactory.

Care of the Child: Cultivation of Regular Habits.

In the prevention of constipation, satisfactory hygiene in the home is of paramount importance. Too often a child is given a purge without any inquiry into the home conditions or as to how it is cared for, with the result that its bowels are only temporarily relieved. The child should have abundant fresh air and sunlight during the day and should sleep alone in a fresh airy room protected from draughts. No fire is necessary. The position of the child in the cot should be changed at intervals. The child will be healthier, and consequently the bowel will share the benefit in tone given to the whole system.

Exercise should play a prominent part in the daily routine. Regular periods should be reserved for this, the time and amount being regulated according to the child's age. At first freedom in kicking its legs about at intervals during the day is sufficient, and as age advances it should be allowed to crawl about in a little pen.

The importance of cultivating regular habits as early as possible cannot be exaggerated. Feeding times should be at definite hours, the child being wakened if necessary. The longer the interval between the feeds the better. Almost any child can begin right away with 3-hourly feeds, receiving six feeds per day. Others do well on 3½- or 4-hourly feeds, receiving five feeds per day. The writer has found that in a large number of cases even four feeds per day, with 4-hourly intervals, produce satisfactory results. But the essential point is that, whatever periods are chosen, strict regularity must be adhered to, and in no case should the child be fed during the night.

[4] Brit. Med. Jour., Oct. 19th, 1918.

The bowels tend to move more readily after a feed, and advantage of this should be taken by training the child into the habit of a morning stool after the bath feed. This can, in the majority of cases, be accomplished by about the end of the second month. The bath should be given at the same time every morning, and if there is any tendency to constipation the abdomen should be massaged gently with some warm oil—to facilitate rubbing—over the tract of the colon, commencing in the right groin and ending in the left. After the feed the child should be held over a small pot, and if this stimulus is insufficient the anus should be lightly tickled with the finger. This acts as a suggestion that something is required.

Some help to peristalsis may be required in some cases to begin with. A dose of syrup of figs, or other mild laxative, given at night is usually effective. If a lubricant is required the best is liquid paraffin. Olive oil is not satisfactory, since a large proportion is absorbed. Whatever is employed the dose should be gradually decreased each night. If the bowels have not moved in the preceding 24 hours, a warm normal saline enema, 1 drachm to an ounce, is best; this increases the tone in the bowel. Large enemas should not be given, as these tend to produce distension and loss of tone. If soap is used, either as an enema or as a suppository, only a mild superfatted soap should be employed, as ordinary soap is liable to set up catarrh and proctitis, and consequently constipation. Either method should not be pushed for any length of time, otherwise actual constipation will result owing to impairment of the normal rectal reflex.

A warning should be given about that unnecessary evil, the binder. Most mothers cannot explain why it is used. They imagine that it is the proper thing to do, as all the babies they have ever seen wear one. A few have the idea that it supports the child's back when, as a matter of fact, it prevents the proper development of the muscles of the back and abdomen. When it is properly applied and stays in its intended position—i.e., round the abdomen—it acts as a constricting barrier to the bowel contents. When fixed loosely, as it usually is, it slips up the body and prevents proper development of the chest. The binder should not be used after the navel has healed, but should be replaced by a woolly vest.

Treatment of Constipation in the Mother.

The expectant mother should be taught the importance of regulating her bowels and carrying out necessary treatment throughout the nursing period. It is practically hopeless to treat a constipated baby by purging the mother, but if she avoids constipation both during pregnancy and after parturition it will be of advantage to the child. All abdominal constriction should be avoided. If the habit of stooling after breakfast has not been practised, attempts should be made to develop it. A glass of hot water half an hour before breakfast, made more palatable by adding a pinch of salt, often acts beneficially. Fresh vegetables should be taken freely. If this is not sufficient small doses of senna at night are good. A favourite form is the infusion from the pods, or some mothers prefer to chew one or two pods. It is more satisfactory to take small doses every night, thus ensuring the morning stool, than to take larger doses once or twice a week. Many expectant mothers take regular weekly doses of castor oil, not only to keep their bowels regular, but occasionally from a mistaken belief that it confers an easy labour. Needless to say, they become more and more constipated.

Improper Use of Castor Oil for Children.

Castor oil is first favourite as a purge in children. One is frequently told with pride by the mother that baby's bowels are regular as she gives it a dose of castor oil every week. The first fault is made in some cases almost as soon as the child is born. A dose of castor oil is given to clear out the meconium, and the mildly stimulating effect of the colostrum is lost, since the bowel is already tired out. This, unfortunately, is the starting point in a great many cases of constipation in children, for if the child's bowels do not act well the mother immediately repeats the dose. When a constipated baby is brought to the clinic one almost invariably finds that one or more doses of castor oil have been given. A safe rule to adopt is: Never give castor oil unless there is diarrhœa.

The Food of the Infant: Quantity and Quality.

The quality and quantity of the food require great attention. It is not sufficient that the child gains from 4 to 7 ounces per week, but inquiries should always be made as to the character of the stools. Underfeeding in breast-fed babies is comparatively frequent. This is evidenced in the character of the stool which is small and insufficient. Besides studying the progress in weight the best guide is the test-feed. The baby should be weighed before and after a feed and, if the quantity is too little, there should be no hesitation in supplementing the feeds with artificial feeding. It is much better to give small quantities of milk after each feed than to replace one or two feeds by a bottle-feed. In this way the natural stimulus of sucking is not interfered with.

Insufficient fat is liable to produce constipation. This occurs more particularly in cases where cows' milk is too freely diluted. For the first few weeks the child can only with difficulty digest fats other than that of breast-milk. Small amounts in the form of cream, an emulsion, or a compound like virol should be cautiously added. As the feeds are made stronger the tendency to constipation passes off. Too much fat is to be avoided, and if the stools become pasty and greasy the quantity should be reduced or even temporarily stopped. If it should be a case of faulty fat digestion some pancreatic extract should be given.

When curds appear in the stool these should be examined to find if they are really composed of undigested milk, as very frequently they consist of small rolls of dried mucus from an insufficiently lubricated bowel. If found to be the former, humanised milk or citrated milk should be given; if the latter, an emulsion of liquid paraffin should be employed as a lubricant.

In bottle-fed babies, as in breast-fed, the appropriate quantity of feed should be regulated according to the weight-chart and the amount of the stool. If the gain does not amount to at least 4 ounces in the week and the stool is too small an increase in the feed is required.

Overfeeding must be guarded against. If a child assimilates its food well, care should be taken that the amount of feed is not too much. The weight-curve will show too great an increase, and although the child may remain in perfectly good condition for some weeks, if diarrhœa does not supervene before, the stools will become too copious, light-coloured, greasy, and lumpy. If this occurs the condition very often corrects itself by keeping to the same quantity of feed for the following week or so.

Other Matters.

Insufficient water is harmful. If the stools become too dry the feed should be further diluted, or the child may be given sips of water between feeds when awake. It is important that the water should first be boiled, as if there is a high degree of temporary hardness it will tend to produce constipation instead of preventing it. The addition of a little fruit juice daily is often of great benefit. Too much water is to be avoided, as with the continued passage of watery stools the bowel in time becomes lazy and will only respond with difficulty when it really has to work. A similar condition results after an attack of acute diarrhœa. It should be remembered that the secretions have become greatly dried up and the musculature of the bowel wall so enfeebled that great care is required in order to avoid chronic mucous colitis or chronic constipation. The tone of the bowel wall should be gradually restored. If simple hygienic measures as outlined do not suffice a bowel tonic should be given, such as a mixture of cascara, nux vomica, and liquid paraffin. Drugs to increase secretion should be used with great care, for if there is any tendency to chronic mucous colitis the condition may be aggravated.

All mothers should be warned of the danger of the indiscriminate use of soap suppositories. Too often this temporary remedy is resorted to, with the result that after a time the bowels will not move without this stimulus. The normal stimulus of the rectal reflex is the presence of fæces in the rectum, and if soap suppositories are given indefinitely the natural stimulus has no effect.

The prevention of constipation in mentally deficients, cretins, and infantilism is greatly dependent on the early diagnosis of the case. Simple hygienic measures, though helpful, will in all probability be insufficient alone. The early administration of thyroid extract in most cases acts beneficially.

DOUBLE RESECTION OF BOWEL.

FOUR SUCCESSFUL CASES OF GUNSHOT INJURY, WITH A NOTE ON DOUBLE AND TRIPLE RESECTIONS.[1]

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THE published results of abdominal operations for gunshot injury and conversations with other surgeons at the various casualty clearing stations have given me the impression that double resections of bowel for wounds of gunshot origin are but rarely successful. I have, therefore, been perhaps unduly fortunate with four cases of my own in which a successful result was obtained.

Notes of Cases.

CASE 1. *Perforating wound of abdomen by revolver bullet; double resection of small intestine; pulmonary infarct; recovery.*—Private, admitted into casualty clearing station on Feb. 23rd, 1918, had been shot with a revolver at a distance of a few feet. The wound of entry was in right iliac region, of exit in left iliac fossa; bullet found in clothing. He was in poor condition when placed upon the operating table about five hours after wound; pulse 126.

The abdomen was opened by a paramedian incision; about 2½ pints of blood evacuated from peritoneal cavity. Twelve large wounds of lower jejunum necessitated resection of three feet of small bowel. Four severe wounds of segment of upper jejunum and corresponding mesentery demanded further resection of a foot of intestine, the lower limit being some 20 inches above first junction. End-to-end union in each case. In view of condition of patient and nature of missile, entry and exit wounds were not excised.

The patient made an excellent recovery so far as concerned his bowel injuries, but some deep tenderness on the right side was interpreted as thrombo-phlebitis of deep epigastric vein, probably due to spread of infection from original track of missile in parietes. The diagnosis seemed confirmed by the sudden development of a small pulmonary infarct in lower lobe of left lung on tenth day after operation. Fluid in left pleural cavity was aspirated on three occasions; each time bacteriological findings negative. The whole left lower lobe was now solid, and an alarming intermittent temperature developed; pulse good and appetite unaffected. A "crisis evacuation" on March 21st, 1918, sent him to the base, and he reached England the beginning of April.

An exploring needle now revealed pus; a small empyema was evacuated after resection of portion of ninth rib; tube removed 10 days later. On April 18th he developed a small abscess of abdominal wall in right iliac region; this was opened. The patient was then sent to his native country, Ireland, and after an operation for the repair of a weak abdominal scar by Captain Herbert Crawford, R.A.M.C., of Dublin, he was discharged from the Service.

The exact causation of the thoracic manifestations was rather obscure, as the patient had previously received a severe penetrating wound of the left chest with resulting empyema, which had been very slow to heal. The sudden onset of the symptoms, however, the date after operation on which they appeared, the thrombosed deep epigastric vein, the latent sepsis in the right iliac region which "flared" two months later, the prune-juice expectoration seemed to confirm the view that it was a septic pulmonary infarct.

CASE 2.—*Penetrating wound of abdomen; resection of jejunum; resection of distal part of transverse colon, splenic flexure and descending colon; temporary cæcostomy.*—Lance-Corporal, admitted into C.C.S. in the early hours of a February morning. A shell fragment had entered the left flank, completely dividing descending colon and shattering adjacent edges for some distance. In upper jejenum were several large perforations; mesentery also perforated and bleeding. Three feet of jejunum were resected; end-to-end junction. Large rent on posterior aspect of transverse colon, anterior surface just penetrated. Excision of damaged portion of transverse colon, splenic flexure, descending and iliac colon; end-to-end junction between proximal portion of transverse colon and sigmoid flexure. The wound of entry was widely excised and "Carrelled"; temporary cæcostomy performed. Apart from massive collapse of lower lobe of left lung and some trouble with laparotomy wound the patient made a good recovery and was evacuated to the base a month later, and later to England.

[1] Being a portion of the Hunterian Lecture delivered at the Royal College of Surgeons of England, Feb. 7th, 1919.

The patient has been invalided from the Service, and is now at work in an office.

CASE 3. *Penetrating wound of abdomen; perforations of jejunum sutured; resection of ileum; resection of sigmoid; temporary cæcostomy.*—Private, admitted into C.C.S. in early hours of January morning in 1917 with penetrating wound of abdomen by shell fragment. After resuscitation for two hours the abdomen was opened, and nine or ten perforations of the jejunum were sutured; also a resection of 18 inches of ileum. Four wounds of the sigmoid were found, two on mesenteric border. As the bowel was in a state of infarction the damaged portion of sigmoid was resected; end-to-end junction. The foreign body was removed from the musculature of the left flank; damaged tissue around track of missile widely excised; temporary cæcostomy performed. Recovery was uneventful. The cæcostomy closed in 10 days, the rectum was then acting satisfactorily. He was evacuated to the base in three weeks, and subsequently went to England.

By a curious coincidence this patient's father had undergone an abdominal operation at my hands in Middlesex Hospital some few years before the war. The patient has now been invalided with a rather weak abdominal wall and has resumed his occupation.

CASE 4. *Penetrating wound of abdomen; hernia of small bowel; wound of bladder; fracture of rib, anterior portion of iliac crest, and pubic bone; double resection of bowel; recovery.*—Private, admitted into C.C.S. on Sept. 18th, 1918. Operation 8½ hours after being hit. Hernia of shattered strangled small intestine through a wound in the right hypochondrium; about 18 inches of bowel prolapsed. A large piece of shell had then passed down between the internal oblique and transversalis muscles on the right side, and had shattered the anterior part of the crest of the ilium. Thence its course was deflected again into the peritoneal cavity, and it had become impacted in the posterior surface of the right pubic bone, transfixing the bladder and impaling a coil of ileum against that bone. A considerable pull was required to dislodge the projectile.

The patient, when placed upon the operating table, had a surprisingly good pulse of 96. On enlarging entry wound, releasing constriction of neck of prolapsed bowel, pulse at once rose to 130. The wound was filthy, and parietes and bowel alike were covered with grease and dirt. Four feet of badly damaged and perforated jejunum were resected, and the other coils of jejunum and upper ileum were assiduously cleansed of grease and clothing. The coil of lower ileum impaled against the pubic bone was gangrenous; resection of 2½ feet. The posterior wall of the bladder was sutured; glove drain passed down into cave of Retzius towards wound on anterior vesical surface. Very wide excision of the damaged abdominal muscles was performed after closing peritoneum; a defect in the latter was filled in by a graft of fascia from anterior layer of sheath of rectus. The anterior end of crest of ilium was widely exsected. The wound was packed with gauze soaked in flavine; frequent instillations with flavine through Carrel's tubes. 900 c.cm. of blood were transfused by Captain G. R. B. Purce, M.C.; usual resuscitatory measures. The gauze and Carrel's tubes were removed on the fifth day, and skin wound sutured. He was evacuated to the base on the fourteenth day, and subsequently to England.

This case is of interest (1) as a successful double intestinal resection; (2) as a case of prolapsed bowel; and (3) the injury was produced by a missile weighing 3 oz.

Remarks.

The pulse-rate in three of my four successful cases was 126 and over when the patient came to operation; the pulse in the fourth was slower until the wound was enlarged. In Case 1 operation was performed five hours after the patient was hit; in Cases 2 and 3 after six hours, and in Case 4 eight and a half hours had elapsed.

Another successful double resection case comes from No. 17 C.C.S. and is quoted in their paper by Major B. Meyer, M.C., and Major D. C. Taylor, M.C. The patient was 15½ years of age, and he had bowel injuries necessitating a resection of 9 inches of jejunum (a lateral junction being made) and another resection of 4 inches of ileum (end-to-end junction). In addition an isolated rent was sutured. He developed broncho-pneumonia, the wound broke down and required a secondary suture, but he was sent to the base in good condition on the sixteenth day.

Majors J. J. M. Shaw, G. H. Stevenson, and Colin Mackenzie record a successful case of double bowel resection from No. 2 C.C.S. Nineteen perforations of small intestine were found and a double resection with double end-to-end

union was performed; the patient was evacuated to the base in due course.

In the War Museum of the Royal College of Surgeons of England is a specimen of a double resection of bowel which ended happily. My colleague, Major C. H. S. Webb, informs me of a successful case of his own, in which a portion of the ileum and a segment of the transverse colon were resected.

So rare are these successful cases and so insistent are the authors of abdominal papers upon the necessity of refraining from double resection that it seems worthy of note that these cases do indeed survive. In France I had occasion myself to perform 11 double resections of bowel for severe injuries of gunshot origin; four lives were thereby saved. It is hardly necessary to state that these were all cases of very severe intestinal injury and could not have been aided by less drastic measures. Suture has, indeed, been practised in certain of these cases *in addition to* intestinal resection.

Major W. A. Campbell, of Glasgow and No. 37 C.C.S., operating upon a severe case of gunshot injury of the bowel, found it necessary to perform a triple resection of the small intestine; in no case did the resection amount to more than 5 or 6 inches. The patient for 10 days made an absolutely uneventful recovery, so far as his abdomen was concerned; the bowels were moving naturally and freely, and there was no sign of any intestinal paralysis. The weather at the time was cold and damp during the latter part of the advance in the autumn of 1918, and the patient unfortunately developed pneumonia and rapidly succumbed.

I have performed only one triple resection of bowel; the patient was desperately wounded, and it was found necessary to resect 2 feet of upper jejunum, 4½ inches of transverse colon, and the sigmoid. In addition there was a severe wound of the liver and the gall-bladder. Transfusion of blood was carried out, but he died 24 hours later.

I am aware that in civil surgery successful double resections are not remarkable. I have recollections of at least one such case of my own, where a favourable issue followed a double resection for carcinoma, and I have seen my senior colleague, Sir John Bland-Sutton, on several occasions perform double intestinal resections which lived; indeed, he tells me that he has probably had half a dozen such cases successful.

I believe that the high mortality of double bowel resection in war has been due to the serious injuries which necessitated such a severe operation, and that it is unconnected with the operation itself. In no successful case of my own was the post-operative history of the case characterised by any condition of ileus or any intestinal obstructive phenomenon, nor was any such demonstrable in the fatal cases at autopsy. Probably my four successful cases owe most to their own marvellous récuperative powers, and to the devoted attentions of the nursing sisters entrusted with their pre-operative and post-operative treatment.

THE MENTAL AFTER-CARE ASSOCIATION.—The annual meeting of the Mental After-Care Association for Poor Persons Convalescent or Recovered from Institutions for the Insane (Church House, London, S.W. 1) was held on March 12th at the Skinners' Hall, Mr. Stanley Keith being in the chair. The report for the year 1918, read by the chairman of the association, Dr. Henry Rayner, showed that 670 applications had been received during the 12 months, the work having nearly doubled in the past four years. Shell shock and air raids sufferers had been received into the various Cottage Homes, in addition to those discharged from institutions for the treatment of mental disorder. Financial support had been, on the whole, satisfactory; of the total amount received—namely, £2276—£144 were due to legacies and £185 to a special appeal made by the chairman on behalf of the association. In order to keep the receipts up to the level of recent years increased subscriptions would be required. Dr. Norman Moore, in moving the adoption of the report, sketched the various stages in the treatment of mental diseases in England from the earliest known case, that of William Monk Fitchett in 1327, up to the present day, when the treatment of mental disorder had become one of the most efficient and humane branches of the healing profession. Mr. A. H. Trevor, in seconding the adoption of the report, alluded to the great increase in the amount of work done by the association, and the need of a further extension of its sphere of action.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ACUTE ASCENDING MYELITIS.

BY DOUGLAS K. ADAMS, M.A., M.B., CH.B., B.SC. GLASG.,
TEMPORARY SURGEON LIEUTENANT, ROYAL NAVY.

THE following case is recorded on account of certain unusual features which it presents.

T. M., aged 21, admitted to hospital on August 13th, 1918, first complained of constipation and malaise on the 8th. Three days later he reported with retention of urine, which had to be relieved by catheterisation. He was accordingly discharged to hospital on August 13th. Patient's previous health had been good, and there was no history or sign of specific disease congenital or acquired, of excess in alcohol or tobacco, or of a recent attack of any acute infection, such as mumps.

On admission patient appeared to be extremely ill, had a temperature of 104° F., and was perspiring profusely.

Nervous system.—There was almost complete loss of power of both lower limbs with absence of the knee-jerks and ankle-jerks. The plantar reflex was flexor on left, occasionally extensor on right. Oppenheim's sign was negative on both sides. No ankle clonus could be elicited. Complete anæsthesia of both lower limbs to superficial and deep stimulation; loss of pain perception. Slight œdema of left foot.

Eyes.—Extrinsic ocular muscles normal. Pupils equal and react to light and to accommodation. Optic discs: right disc—"woolliness" of the margin of disc with signs of early neuritis; left disc—normal. Lateral nystagmus elicited with ease. Mental condition clear.

Cerebro-spinal fluid.—Lumbar puncture performed on admission gave exit to clear fluid under considerable pressure. Examination of a centrifugalised specimen showed great excess of small lymphocytes, each microscopic field being packed with cells almost exclusively of this type. No organisms could be detected. No culture could be grown. The cerebro-spinal fluid did not reduce Fehling's solution; there was marked reduction of 0·1 per cent. solution of potass. permanganate. Wassermann reaction of c.s.f. negative.

Circulatory system.—Heart normal. Systolic blood pressure = 95 mm. Hg. Blood: Wassermann reaction negative. Erythrocytes 5,432,000 and white cells 9000 per c.mm.; Hb, 90 per cent. Differential count per cent.: polymorphs, 57; small lymphocytes, 34; large lymphocytes, 8; eosinophils, 0·5; and mast cells, 0·5.

Respiratory system.—No abnormalities detected. Abdomen: No abnormalities detected. Abdominal reflexes present. Spleen normal. Urine: No abnormalities detected. Acute retention of urine and fæces.

The day after admission the zone of anæsthesia had extended to the umbilicus and the following day was two inches above the umbilicus. Superficial abdominal reflexes absent. On August 17th wide dilatation of the right pupil appeared, and patient complained of weakness and tingling in both arms. Triceps, supinator, and wrist-jerks absent. Great impairment of muscular power, but not absolute paralysis. Slight impairment of tactile sensation. No wrist-drop. No paralysis of intercostals or diaphragm. At this stage there was still retention of urine, and constipation was absolute and uninfluenced by medicinal treatment. Six days later retention gave place to incontinence of urine and fæces. In spite of prophylactic measures cystitis developed, and this was followed by the appearance of an inflammatory area over the right trochanter and also by a sacral bedsore of considerable size and depth.

No further complications were observed. The arm symptoms gradually improved and motor power and sensation returned to normal. Sphincter control of bladder and bowel was regained, the cystitis cleared up, and the bedsore healed. The right abdominal reflex returned before the left. Motor power and sensation in the legs were gradually regained. Knee-jerks, at first absent, could be elicited with difficulty and with slight response. A few days later the jerk was exaggerated in excess of normal, more especially on the right. Nystagmus could no longer be elicited.

As to treatment, lumbar puncture was performed on admission. Patient was placed on mercury and iodide, but previous to their administration definite improvement had commenced. Other treatment was simply symptomatic.

Patient was allowed up in a chair on Sept. 30th, and from this date onwards his recovery was rapid. His gait, at first ataxic, soon became normal. By Oct. 15th, 10 weeks subsequent to admission, he was able to walk a distance of four miles, unaided and without fatigue.

Remarks.—The case appears to present difficulties in diagnosis. On admission the symptoms suggested transverse myelitis, possibly of specific origin, and this was adopted as

a provisional working hypothesis. The Wassermann reaction of the cerebro-spinal fluid and of the blood (twice repeated), however, proved negative. This would apparently exclude syphilis as the ætiological factor, for even if the view be adopted that a few remaining spirochætes might fail to yield a positive result, the infection of the central nervous system was too severe and widespread to be explained on this basis.

It will be noted that there was a well-marked excess of cells of the cerebro-spinal fluid, and that the cells were almost exclusively lymphocytic in character. Lymphocytosis of the cerebro-spinal fluid is typical of subacute and chronic infections of the cerebro-spinal meninges, especially in parenchymatous cerebro-spinal syphilis. It also occurs in mumps and in herpes zoster. In the early stages of acute poliomyelitis lymphocytes are in the majority, as also in the later stages of acute meningitis when recovery has commenced.[1] There is also occasionally an excess of lymphocytes in the cerebro-spinal fluid in cases of cerebral neoplasm.

Landry's paralysis.—The case has certain features in common with this group—viz., ascending motor paralysis. The typical case of Landry's paralysis, however, does not show marked constitutional symptoms or so profound an involvement of sensation and loss of sphincter control.

Acute toxic polyneuritis.—The sensory involvement in the case above described was not limited to glove and stocking areas, the proximal limb muscles were affected as severely as the peripheral muscles and anorexia was extreme. This diagnosis was therefore excluded.

Acute poliomyelitis.—Passive movement of limbs did not produce pain. There was marked sensory loss and the affected muscles did not show atrophy. In these points the case is atypical of acute poliomyelitis.

Subacute combined degeneration.—This was excluded by the subsequent history, the patient rapidly recovering his normal health.

The general facts point towards a fairly acute and widespread invasion, presumably via the blood stream, of the cerebro-spinal nervous system, involving the pyramidal tracts, posterior columns, and optic nerve. The case would appear to be one of acute ascending myelitis, probably infective but not so proved.

TWO CASES OF INTERMITTENT HYDROPS ARTICULORUM.

BY R. MACLELLAND, M.D. EDIN.,
RESIDENT PHYSICIAN, SMEDLEY'S HYDRO, MATLOCK.

THE comparative rarity of this affection makes the following two cases worthy of publication.

CASE 1.—A female, aged 23, single, complained in November, 1917, of swelling in the right knee which had appeared the previous day. There was discomfort in the joint rather than pain, no redness or heat, practically no tenderness, no fever; the joint was distended with fluid. It was painted with iodine pigment and appeared to be well in three or four days. A day or two later a synovitis of the same character developed and again rapidly subsided. From that time up to April 29th, 1918, when I last heard of her, periodical attacks recurred every tenth day. An attack took three days to develop to a maximum, slowly subsided for five or six days, and then another attack began. Occasionally the fluid completely disappeared before the next attack. At times an attack began on the ninth or eleventh day. There was no history of injury; the only previous illness had been scarlatina years ago. Except for slight passing neurasthenic symptoms a few months before the synovitis began the general health had been excellent. Absolute rest in bed for six weeks, local treatment, lactate of calcium, adrenalin, arsenic, quinine, and other drugs had no appreciable influence on the condition.

In the light of the other case the diagnosis was easy and the prognosis hopeful.

CASE 2.—The patient was under the care of and diagnosed by Dr. G. C. R. Harbinson, senior physician here, and I have his kind permission to publish the following notes. The patient, a male, aged 60, from June, 1908, till late spring, 1909, had attacks of synovitis in the left knee, recurring every eleventh day on an average. They were at their height on the third day, and then subsided in three or four days. There was slight tenderness on the inner side of the joint; no acute pain, redness, heat, or fever. Between the attacks movements of the joint were good, and the patient walked about with a stick, only slightly lame. During the earlier attacks the joint became tensely distended, but later the distension was less. On Dec. 1st, 1908, there was a slight attack in the right knee, lasting four days only. After this date both knees were affected periodically, but not synchronously. After nine months the disease came to an end, leaving the knees well, and there has been no recurrence. No treatment seemed to have any effect. Exercise did not affect the periodicity, but increased the intensity. The general health of the patient was good and there was no organic disease. Previous history: (1) A series of similar attacks, 23 in all, with the same periodicity, beginning in August, 1904, and ending in May, 1905, in complete recovery, the joint remaining well until June, 1908; (2) a history of overflexion of the left knee in November, 1873, while stepping out of a railway carriage, followed by synovitis lasting for eight months, with intermissions, and then ending in complete recovery. There is no history of asthma or angeio-neurotic œdema or Raynaud's disease, and except in 1873 no history of any injury.

[1] Purves Stewart: Diagnosis of Nervous Diseases, 4th ed., pp. 443, 444.

SCARLET RED POWDER AS A TISSUE STIMULANT.

BY A. J. TURNER, M.B., B.S. DURH.,
CAPTAIN, R.A.M.C.

THAT toluol-azo-toluol-azo-β-naphthol (scarlet red) has a powerful effect in stimulating the growth of granulation tissue and epithelium is well known. It may, however, be suggestive of new applications of the principle if some of the cases in which it has been used in my practice be mentioned.

Ectropion.—After making a V-shaped incision below the lower lid, sufficiently deep to allow of the lid being freely brought up into its normal position, the two lids were stitched together, scarlet red ointment was applied to the raw surface until granulations had filled up the hiatus and the skin had grown over. The lid was then found to maintain its new position and a scarcely perceptible scar remained. The results in a series of these cases were excellent.

Oriental sore.—My custom has been to scrape these ulcers very thoroughly under chloroform till nothing further could be brought away by the spoon, and then to dress daily with scarlet red ointment. The cavity left by scraping was speedily filled up with granulation tissue to the surrounding level, and when the skin had grown over the scar was quite faint.

Burns.—1. A lady, the back of whose hand had been burnt to the fourth degree and who had neglected it for a week, was treated with applications of scarlet red ointment on lint twice a week for three weeks. The discharge quickly ceased, the green sloughs disappeared, and the septic pits granulated up. When the skin had extended over the surface no scarring was visible and there was no limitation of movement.

2. A Pathan who had been badly burnt about the face some years previously could not open his mouth sufficiently to take solid food. I made several incisions radiating from each corner of the mouth. It was impossible to get the mouth very widely open, as the scar tissue had narrowed the aperture as well as reduced its depth. The furrows produced by the incisions and stretching were dressed with scarlet red ointment; granulation tissue filled them up level with the surrounding areas and prevented any relapse. The final result was that the patient could separate the teeth sufficiently to introduce and masticate small quantities of solid food.

Vesico-perineal sinuses.—A Punjabi came to me in Dera Ismael Khan. He had no less than six sinuses by which urine dribbled away. He was very miserable and greatly debilitated. An indiarubber catheter was tied into the urethra. A piece of gauze impregnated with scarlet red ointment was introduced daily into the whole length of each sinus. After a few days this was omitted, as it was very difficult to insert even a very narrow piece of gauze. The sinuses closed up and recovery was perfect.

Corneal ulcers.—I have used the ointment with success for these.

Wound cavities.—In open wounds with considerable loss of tissue I have found an antiseptic paste containing scarlet red powder prevent ugly scarring and crippling contractions, where the latter were not due to nerve lesions.

With regard to the strength of the ointment employed, I began with one of 8 per cent. on alternate days, but subsequently found that 2 gr. to the ounce of vaseline, applied daily, was equally effective, and I have never had occasion to revert to the stronger preparation. Where it is desired merely to hasten the growth of epithelium a very successful method is to apply the ointment for two days and then apply a daily hot fomentation for four days, these alternations to be repeated as long as necessary.

Medical Societies.

ROYAL SANITARY INSTITUTE.

Conference on Post-War Development Relating to Public Health.

AT the Royal Sanitary Institute on March 14th, Dr. L. C. PARKES being in the chair, Dr. N. D. BARDSWELL, M.V.O., opened a discussion on the Public Health Aspect of Tuberculosis. He said that at the Hereford sessional meeting of the Institute in May last, Dr. D. D. Gold reviewed the position of the treatment and certain aspects of the prevention of tuberculosis, and he proposed to take up the theme much as Dr. Gold had left it, considering in greater detail the various measures which had been referred to as matters of experiment. Prevention and cure could not be separated. The object of all administration was the prevention of the disease and the cure of the individual. The first thing to be done was to ameliorate those conditions of faulty environment which predisposed to infection. That the circumstances of the industrial classes should be improved was now recognised as necessary for the future welfare of the country, and when this was done the prospects of recovery of those suffering from the disease would be greatly increased. Social reform was urgently needed. It was not sufficient, however, to deal with predisposing factors alone; there still remained the infective agent, the tubercle bacillus. Infection passed from one person to another, and those suffering from tuberculosis ought to be controlled. This was not being done at the present time. Existing arrangements for the treatment of tuberculosis had met with very small success. In many patients first coming under observation the disease had so far advanced that cure was out of the question; those for whom cure was possible often declined treatment on the ground that if they were deprived of their incomes their dependents would suffer, while the incompletely cured consumptive could not compete in the ordinary labour market; finally, the whole working conditions of many patients were such as to destroy all hope of cure. In regard to diagnosis the public ought to be better informed, the general practitioner should make greater use of the skilled tuberculosis officer, and a more liberal scale of sickness benefit should be allotted. In factories suspected cases should be selected for diagnosis. Care committees could not secure proper housing or suitable employment for their patients if neither were available. After-care at the present moment was merely palliative and in some parts of the country did not exist.

Colonies for the Tuberculous.

Experience at present showed that the life of the consumptive worker who was compelled to live in a city might be prolonged by treatment, but, generally speaking, his cure as a working unit was an impossibility. Any measure which was likely to succeed must include the removal of the patient from an unsuitable to a suitable environment. That was the principle underlying the modern idea of colonies, as planned by Professor Sims Woodhead and Mr. Varrier-Jones. Such colonies admitted patients suffering from all degrees and forms of tuberculosis, workshops were provided under expert guidance, so that the patients could be taught trades, and it was hoped that many after a prolonged sojourn would be discharged in good health and subsequently follow their newly-acquired occupation. Permanent settlement was encouraged and cottage accommodation provided for those with families. Generally speaking, it was hoped that consumptive patients would be induced to live under healthy conditions where supervision could be exercised, so that their prospects of recovery and of becoming productive units of society would be greatly increased.

It was impossible as yet to judge how far the principle could be extended. Several sanatoriums had dealt satisfactorily with the problem of employing patients by absorbing them into the personnel of the institution, but obviously what could be done for 40 or 50 people would be impossible for perhaps tens of thousands. Attempts had been made to establish trades for consumptives, and it was to be deplored that the support of public authorities was lacking. Industries staffed by tuberculous labour required substantial subsidies, but such subsidies would in the end prove economical. Other points which had to be considered were the size to which the colony could grow and still remain a manageable unit, the employment of dependents and provision for their education, and the preservation of discipline and enforcement of hygienic rules both for patients and their healthy relatives.

Difficulties occurred with Friendly Societies on the question of sick benefit for consumptives employed in remunerative work. Nevertheless, a scheme of this sort presented such enormous possibilities that funds should be forthcoming to permit the undertaking of experiments of this kind. The present was a favourable time for such experiments, as there were thousands of ex-service men in the country who would be able to enter the colony free from anxiety with regard to their dependents and retain the wages they earned, which varied from 30*s.* to 12*s.* a week. If these men, however, had the grit to go to a colony and learn a trade, their pensions should not be reduced. A reduction of pension was detrimental to men seeking treatment, and they often refused treatment on these grounds. A tuberculous person, so long as he was a tuberculous person, should have the full rate of pension.

Sanatorium Factories.

With regard to introducing some of the colony principles into city life, Dr. Bardswell thought that it should be possible to introduce sanatorium workshops under the direction of the tuberculosis officer. The small wage which the patient earned, in addition to that of his wife and children, would keep the family above the poverty line. If these men worked in crowded factories they formed centres of infection for others. It had been suggested that trade-unions should set up workshops for their consumptive members, but the establishment of sanatorium workshops was only possible where one or two trades were carried on in particular areas—in a bootmaking centre, for example. Labour officials did not approve of subsidised labour. The idea of such factories was not new, for in New York a sanatorium factory had been run for the past two years chiefly in connexion with the clothing industry. The wages earned cancelled the sum which in previous years the society had paid to dependents and in the sustenance of patients. Why should England be behind America? Something should be done in the way of organising home employment, and it ought not to be impossible to devise some means of distributing work to consumptives and so prevent them working with their fellow men. The moral value of work for a consumptive was extraordinary, but it was important that he should not regard himself as working for the sanatorium. He should be shown clearly that the work is for his benefit and the money earned should go into his own pocket.

It was useless to introduce colony ideas into city life in order to control consumptives during the day-time if they re-entered the slums at night, and perhaps slept four in a bed, but housing would come in time to remedy that state of things. For such patients after-care funds should pay the difference between a miserable and a suitable house, and every public health authority should have the disposal of a certain number of beds which would be available for working men of good character, who would thus be given every chance of getting well. In Paris, in connexion with a dispensary, they had hospitals where patients with bad homes could be provided with a bed at a very small fee. Such hospitals ought to have a communal kitchen in connexion with them, where the patient could get a good breakfast before going out in the morning. Throughout the country and in London the lack of adequate institutional accommodation for cases of advanced disease was a most serious blot on our administration. Sanatoriums were quite unsuited for such cases, and there was a great dislike on the part of the people to Poor-law institutions; they would put up with the most appalling conditions rather than go into the workhouse infirmaries.

Discussion.

Mrs. HANDEL BOOTH, speaking from the purely social side of the work, and from a large experience inside the homes

of the people as well as of sanatoriums, said that she was more than ever convinced that a great deal of the money spent in large towns on sanatorium treatment was wasted. The patient returned home looking very well and felt anxious to work, but in two or three months he broke down and went on the funds of the Approved Societies. If sanatorium treatment in this country was to be efficient something more drastic would have to be done. More coördination was required between members of the medical profession, and more human interest in the individual case. The incidence of tuberculosis had increased under war conditions. Propaganda among the working classes was needed, for they did not seem to realise at all that consumption was in any way infectious. Practically nothing was done in the majority of homes to prevent infection spreading amongst other members of the family, and sometimes the accommodation was such that it was not possible to take proper care of the patients in the home. There ought to be larger powers under the Local Government Board to segregate infectious patients. There was no reason why arrangements could not be made to convert the workhouses that had been used for our soldiers during the war into hospitals for consumptive patients in whom the disease was advanced. A large number of manufacturers were willing to give home employment, but the public objected to buying goods made by consumptives. To make this a commercial success a Government subsidy was necessary. Some method of compulsion should be adopted for segregating consumptives, otherwise the fringe of the subject only would be dealt with.

Dr. H. CARDALE (chairman of the London Panel Committee), speaking on the housing problem, said that before better environment was provided it would be necessary to educate the people. The practitioner had an important duty to perform in this respect, but he could not perform it in the best way. This was not so much his fault as that of his educators. Those responsible for his education should lay at least as much stress on the prevention of disease as on its cure. The health of the child could not be built up at too early an age. If more attention were paid to this question a larger amount of tuberculosis would be prevented. An extension of the valuable work of the Children's Country Holidays Fund would do a vast amount of good by preventing the development of tuberculosis. He agreed that more coördination between the various branches of the medical profession was needed. In the vast majority of instances the early cases of consumption came to the general practitioner, who had been blamed for not being sufficiently alert in the detection of such cases. But when he had detected them he had the greatest difficulty in persuading the patient that there was anything seriously the matter with him.

Dr. R. M. F. PICKEN (Assistant M.O.H. Glasgow) said that with regard to early diagnosis a specialised tuberculosis officer was more or less undesirable. The dispensary should be a consultative place, and a specialist was here necessary who should be in touch with every side of disease, as there was a tendency to diagnose tuberculosis when the patient was suffering from something else. At the present time the number of consumptives requiring segregation was probably very small.

Councillor LANSBY (Lanarkshire) thought the housing conditions had very much to do with the spread of disease.

Views of Other Speakers.

Professor SIMS WOODHEAD said the lecturer had been able to stimulate a large number of people to make advances along scientific lines. He felt that in the treatment of this very serious problem we were not courageous enough. It had been said that we wasted a good deal of money on sanatoriums, but we had to realise that at the outset the sanatorium was an experiment. It arose on the open-air treatment principle—a good and sound one—and although money had been apparently wasted on it, it had opened the way for further advance. The spending of the money would be justified in future. We had to take tuberculosis as we found it and not expect that patients in different stages of the disease would be made for us to order. The disease would either advance or the patients recover, and if we were going to carry them about the country in order exactly to fit them into places prepared for them a large number of expensive institutions would be required. The patient must be attracted and made to see that it was to his advantage to go into an institution. He had first to realise that he was suffering from a disease and that under certain conditions he would be capable of living a useful life for a considerable period of time. Pensions should not be taken away because he was earning a small sum of money. The fact that he was earning made a great difference in prognosis.

Mr. WALKER (North Wales) said the matter required to be investigated in a more serious spirit and the people must be educated. A man had no more right to be carrying tuberculosis through the land than he had to wander about the country if he were insane. The tuberculosis patient should be controlled.

Dr. F. G. CALEY (Tuberculosis Officer, Wandsworth) said that after four years' absence he had returned to find that the dispensary sanatorium as it existed now was very disappointing. Tuberculosis was an infectious disease, and we were dealing with it as though it were non-infectious. Colonies must be made attractive. It was the system of the future, and we had to adopt it if we wished to get rid of the disease.

Dr. D. C. KIRKHOPE (M.O.H. Tottenham) said that housing alone would not solve the problem of consumption. Isolation was needed.

Dr. S. G. MOORE (M.O.H. Huddersfield) thought that earlier notification was required and the Local Government Board ought to have returns showing the average duration of the disease at the date of notification. The only chance of restoring a consumptive patient to useful working capacity was that treatment should be undertaken while there was sufficient lung tissue present for normal life to be carried on. When the disease was advanced there was an actual destruction of lung tissues which arrested every effort to rehabilitate the man.

Mrs. KEEN (Papworth Colony Committee) thought that segregation should not be compulsory, but made attractive and gradually adopted. Such centres as those at Papworth were required in all parts of the country.

Councillor LOUDON (Manchester) believed that effective propaganda work among the public was necessary. The main cause of the generation of consumption lay in the habits of the people. In Manchester industrial conditions disposed to consumption, which was followed by a great loss of money and productive power. Consumption should be treated in the same way as other infective diseases, and where isolation was not possible in the home a patient should be sent to an institution, compulsion being used if necessary.

Dr. BARDSWELL, in his reply, said he was glad to see so many interests represented, and that the general feeling of the meeting showed that there was a desire for something more to be done with regard to the treatment and prevention of this disease. Professor Sims Woodhead had struck the right note when he expressed the opinion that experiment must be extended. A general wish for segregation had been expressed, but he thought it should be done by attracting the patients and not by compulsion. Such an enthusiastic congress as the present one would have been impossible a quarter of a century ago owing to lack of interest, and he regarded the present meeting as an indication of the earnest intention of the country to deal with the matter on a more comprehensive basis.

LONDON ASSOCIATION OF MEDICAL WOMEN.—A meeting was held on March 11th, at 11, Chandos-street, when Lady Barrett, the President, showed a case of Deficiency of the Pituitary Body in a girl aged 19. The patient had primary amenorrhœa, and on examination was found to have a very small, undeveloped uterus. She had no thyroid deficiency, and was well developed except in the size of the skull. The circumference was 19 inches, the occipito-frontal measurement was 6½ inches, and the transverse was 5 inches. A skiagram showed a very small pituitary fossa with the anterior part especially undeveloped.—Dr. Rhoda Adamson opened a discussion upon the Effect of Industrial Employment upon Women. She spoke from experience as medical officer for seven years to a maternity hospital, most of the patients having been factory workers before marriage, and many of them charwomen afterwards. She also spoke from the point of view of three years' supervision of some thousands of women in engineering work, most of whom were wives of men in the Navy, Army, or Air Force. She emphasised the need of grading by a doctor with opportunities of seeing the

different kinds of work, and the importance of giving suitable work to pregnant women, who should be taken off all night work and all work involving sudden strain. She found that the children born under these conditions were as healthy as those whose mothers did no outside work. An interesting point was brought out in the fact that out of 4000 women doing heavy work only two developed hernia. On the whole, Dr. Adamson found that industrial work was good for women, and that some who had never gone out to work before brightened up mentally, developed hobbies, and improved in health.—Dr. Janet M. Campbell spoke of some of the effects of munition work on women. She said that industrial occupations were less injurious to women than to men, and that they were less liable to accident, but that women suffered more from overstrain, 50 lb. being the maximum weight which it was found advisable for most of them to handle. She said that the tuberculosis rate had risen since the war in the case of urban females, probably owing to the entrance of more women into conditions which had previously accounted for the greater incidence in urban males. The greater incidence of sickness among working women must be attributed to poverty, lack of fresh air, long standing, and improper food. In munitions work, the results upon health were found to be good owing to good wages, healthy conditions, and welfare supervision. Dr. Campbell said that the results showed that light sedentary work was by no means best, and that many women would have better health if they followed more active occupations.—Dr. Josephine L. D. Fairfield spoke from her experience in the Q.M.A.A.C. and W.R.A.F., and referred to the great value of grading for work. She attributed the higher sickness rate in women to the strain of household management being added to that of outside work, and said that women suffered more from lack of a good mid-day meal and good ventilation, and stood continued strain and "dope" less well than men. In her opinion the unreliability of the health of women about the age of 40 was chiefly due to want of care at childbirth, and to chronic toxæmia due to dental disease, and both of these causes should be prevented. She said that no industrial work was harder than a woman's work in a poor home, with all the washing and cleaning and half-a-dozen children to mind.—Dr. Cicely M. Peake spoke of her experience in the Q.M.A.A.C. She said that as women had less muscular power and less leverage owing to less height there was a need of adapting machinery to their use.—Dr. Pillman Williams gave some interesting statistics in reference to her three years' work in a filling factory where 9000 girls were employed. She found that the sickness rate in one section went down when night work was stopped from 24·2 per cent. to 20·24 per cent. per week.

LIVERPOOL MEDICAL INSTITUTION.—At a pathological meeting held on Feb. 13th, Mr. Thelwall Thomas, the President, in the chair, Dr. J. P. McGowan read a preliminary note on Mutation of Organisms of the Coliform-typhoid Groups. Several cultures of a paratyphoid-like non-lactose-fermenting organism grown on ordinary agar subcultures infrequently and kept in the dark at room temperature were found after two to three years to have mutated into lactose-fermenting coli-like organisms. The converse also occurred, but much less frequently. The same change was brought about in a few days by a particular method of passage through the body of an animal.—Professor J. M. Beattie read a paper on the Diagnostic Value of the Wassermann Reaction in Syphilis. He claimed that the test, when carried out with a full and accurate technique, was of extreme value, and referred to the very consistent results obtained by three experienced workers selected at the instance of the Medical Research Committee. The results in 1000 cases were analysed, and it was shown that negative results could in almost every case be reconciled with the history of the cases, treatment, &c., and that in positive cases the clinical and serological diagnosis almost invariably agreed. In clinically obvious cases—e.g., chancres, condylomata, gummata—every negative result could be satisfactorily explained by the cases being either very early ones, fully treated or undergoing treatment at time the test was done. In other cases where dependence had to be placed on a very imperfect history the agreement between clinical diagnosis and serological was not so close, but there was sufficient agreement to justify the opinion that the reaction was of the greatest value.

TUBERCULOSIS SOCIETY.—The address on Acute Pneumonic Tuberculosis will be delivered by Sir William Osler on April 28th at 8.30 P.M., and not, as announced, on March 24th. In its place Dr. Halliday Sutherland will open a discussion on Tuberculosis Officers and Panel Practitioners on March 24th at 8.30 P.M. at the Royal Society of Medicine. Discussion at this meeting is open to all members of the medical profession.

Reviews and Notices of Books.

Roentgen Diagnosis of Diseases of the Head. By Dr. ARTHUR SCHULLER, Head of the Clinic for Nervous Diseases at the Franz-Joseph Ambulatorium, Vienna. Translated by FRED F. STOCKING, M.D., with a Foreword by ERNEST SACHS, M.D., Associate Professor of Surgery in Washington University. London: Henry Kimpton. 1918. Pp. 305. 21*s.*

THIS is a valuable and important contribution to the study of craniology, and while appealing specially to surgeons and radiologists it will prove helpful to the physician. The X ray investigation of the head demands the highest degree of perfection in equipment and in technique, and the subsequent interpretation of the plates is attended with unusual difficulties. In addition, opportunities for subsequently ascertaining the correctness, or otherwise, of the X ray findings are not always obtainable, so that it is scarcely to be wondered at that the subject has been of slow development. In collecting the necessary material for a work of this kind the author seems to have been very fortunately placed, and he has succeeded in giving us a thoroughly systematic treatise that is certain to exercise a profound influence on the investigation of cranial lesions.

The author is careful to point out that radiography is only an addition to existing methods, though its possibilities are much greater than is usually supposed. The basis of the whole subject lies in the fact that intracranial diseases are so frequently associated with changes in the bones of the skull, and it is the purpose of this work to study these changes from which so much valuable evidence is to be obtained. After a consideration of the normal skull at various ages and in different varieties, Chapter II. treats of the irregularities in development following disturbances in the growth of the skeleton, changes in the structure of the bone and injuries to the skull. Chapter III., in addition to pathologic changes in the brain that can be shown directly radiographically, deals with the changes in the skull produced by intracranial pressure, tumours, epilepsy, migraine, and psychoses.

Very properly the author advocates the use of stereoscopic plates in all cases. Numerous radiographs are reproduced to illustrate the text, and each is accompanied with a line drawing that makes the interpretation quite clear. We would draw special attention to the section relating to changes in the sella turcica, which is most complete. The author handles his subject in a way that is entertaining as well as instructive, and it is to be hoped the work will receive the attention it deserves.

Intensive Treatment of Syphilis and Locomotor Ataxia by Aachen Methods. By REGINALD HAYES, M.R.C.S. Third edition, revised. London: Baillière, Tindall and Cox. 1919. Pp. 92. 4*s.* 6*d.* net.

IN the third edition of his brief study of Aix-la-Chapelle methods the author recommends, as the result of further experience, shorter intervals between the salvarsan injections. The illustrative cases have been brought up to date, and illustrations have been added to show the position assumed by patient and rubber during treatment.

The Whole Duty of the Regimental Medical Officer. By Captain P. WOOD, R.A.M.C. London: Forster, Groom, and Co., Ltd. 1919. Pp. 78. 2*s.* 6*d.*

THIS little book contains a series of maxims which should be taken in by the embryo regimental medical officer. It does not pretend to be more than a first-aid in sanitation and prevention of disease in the field. The duty of the medical officer to the State, to his unit, and himself is dealt with. Certain criticisms of existing conditions as they appealed to the author are worthy of consideration. This officer, who has served in Salonika, describes a successful scheme for dealing with cases of malaria, amongst a variety of other routine duties. No doubt if the book had appeared a little earlier it would have been of service, and there is no reason why it should not be so now for those stationed in similar climes.

Manual of Bacteriology. By ROBERT MUIR, M.D. Edin., F.R.S., Professor of Pathology, University of Glasgow; and JAMES RITCHIE, M.D. Edin., Irvine Professor of Bacteriology, University of Edinburgh. Seventh edition, with 200 illustrations in the text and six coloured plates. London: Henry Frowde and Hodder and Stoughton. 1919. Pp. 753. 16*s*.

THE war has stamped itself indelibly on medicine and the ancillary sciences. New diseases have appeared and their ætiology has been investigated, and in some cases solved, while on the other hand many subjects on which our information was still incomplete have passed, under the exceptional conditions of the war, into the region of definitely acquired knowledge. As the last edition of this excellent text-book, undoubtedly one of the best for the purpose of the medical student and practitioner, was produced in 1913 the new edition naturally reflects this war influence, though the additions made are by no means confined to those sections which are concerned with diseases which have been specially prominent during the war. As with former editions, there has been a thorough revision of the book and the new material is not simply added to but incorporated with the old, so that this latter is modified by the knowledge subsequently obtained. By pursuing this sound but troublesome method the authors are able to assimilate all the really important new material available without unduly enlarging the book.

Dealing first with the war subjects, the section on cerebro-spinal fever has been revised and the chapters treating of the enteric group of diseases, including the amœbic as well as the bacillary form of dysentery, have been rearranged and extended. More attention has naturally also been given to the important group of anaerobic organisms which were associated with the grave complications of wounds, and there are corresponding additions to the methods of anaerobic culture. For the first time sections deal with the spirochæte of infectious jaundice and the allied spirochæte of rat-bite fever. The information on trench fever has been epitomised from the reports of the English and American Committees, and the important pioneer work of McNee and Renshaw is duly appreciated.

In matters not directly arising out of the war, the chapter on pneumonia now contains the American work on the differentiation of pneumococci, with its practical bearing on treatment. The organisms found in actinomycosis are definitely described as belonging to three distinct main groups—aerobic, anaerobic, and actinobacillary. Poliomyelitis is treated at considerably greater length and Rosenow's theory as to its origin discussed, while a section on epidemic encephalitis has been added. The chapter on influenza will require attention in the next edition; blood-smeared agar is still described as the most suitable medium for culture of the organism. Other modifications too numerous to mention have been made, but all with good intent and result.

The number of illustrations has been increased, and the additions include several of anaerobic organisms, the new spirochætes, and one figure of the organisms found in Vincent's angina. The misdescription of one of the malarial plates has now been altered. The general appearance of the book remains as in former editions, and though one or two typographical errors have crept in, the printing and paper, considering present conditions, are very satisfactory.

Tropical Surgery and Diseases of the Far East. By JOHN R. MCDILL, M.D., F.A.C.S. London: Henry Kimpton. 1918. Pp. 302. 24*s*.

THE title of this book hardly conveys an idea of its peculiarities. It is not a humdrum text-book, as witness the following passage:—

> "There are no dangerous wild beasts (in the Philippines) except the wild Carabao or winter buffalo, which, when hostile, has no match for ferocity; one must either kill him or take to a tree, and that forthwith, or be killed, for although weighing about a ton, he is as quick as a tiger."

It is curious to find "calabar swellings" in a book dealing with the Far East and no mention of *Schistosomum japonicum*, or, more remarkable still, of ancylostomiasis or sprue. But although the plan of the book is hard to discover yet it contains some valuable matter. The surgical portions are interesting, the operation for liver abscess being clearly depicted by good photographs. Indeed, it is a merit of the latter that the majority do show what they are stated to do and are not smudges. About 100 pages are devoted to the replies to a "questionnaire" sent out by the author in 1911. What the questions were is not stated, and how far the replies are of value it is difficult to judge, but at any rate they afford evidence of the diseases that a medical man is confronted with and of the material awaiting the research worker. An appendix of 40 pages deals with the surgery of the spleen.

Modern Urology. Edited by HUGH CABOT, M.D., F.R.C.S. Philadelphia and New York: Lea and Febiger. 1918. Vol. I., pp. 744. Vol. II., pp. 708. $14.

THIS book consists of a collection of monographs written by some 30 American authors, each of whom has a world-wide reputation, and is a master of the particular section with which he has to deal. The editor is to be congratulated in having obtained such a combination of men to help him to send forth into the surgical world the views of American genito-urinary surgeons relative to the science of urology. It is only natural that the excellence of the various articles should vary considerably, and it is not to be wondered at that there is a good deal of overlapping, leading in some cases to widely varying opinions of theoretical character which at times lead to confusion. On the whole, however, it is a good book and redounds greatly to the credit of the editor. An attempt has been made to ensure that each article is complete as regards points of historical interest, pathology, diagnosis, and treatment. In some instances elaborate discussions are made when there is a difference of opinion as to the theoretical origin of certain conditions, many of which are stimulating and demonstrate well-balanced coördination on the part of the authors.

We do not attempt to single out for praise particular articles amongst so many to which the names of men of world-wide repute are attached; it is sufficient to say that the high standard of accomplishment which might have been expected has been obtained. One interesting feature is the prefacing of the book by an historical account of the rise of genito-urinary surgery in America, with a short life-history of the important men who have raised it to its present high standard. It is a little disconcerting to find that so little credit is given to surgeons in this country in aiding this progress.

The drawings, photographs, X ray photographs, anatomical and pathological illustrations and coloured prints are excellent both in their number and reproduction. Especially is this the case of the coloured cystoscopic views, which are numerous and representative. The book also contains a good bibliography. As a record of theoretical and practical genito-urinary surgery, as observed from the American point of view, there can be no doubt that the editor has produced a notable addition to literature and one which will remain for a long period the best available authority.

The Science and Art of Deep Breathing. By SHOZABURO OTABE, M.D Basle. London: John Bale, Sons, and Danielsson, Ltd. 1919. Pp. 114. 5*s*.

IN this little book the author strongly urges the practice of deep breathing for ten minutes every morning and evening as a preventive against consumption and other diseases. He ascribes the salutary effect produced, not so much to the inhaling of an increased amount of oxygen as to the changes produced alternately in thoracic and abdominal pressure. During deep inspiration the thoracic pressure decreases and the abdominal pressure increases:—

> "Hence the blood circulating in the abdominal cavity flows into the thorax with greater rapidity, and the blood circulation in the abdominal organs becomes very rapid. ..... During deep expiration, when the abdominal pressure decreases, the thoracic pressure increases, and the blood which was drawn up into the thorax during inspiration flows back again into the abdominal cavity with great speed. In this manner the nerve function and blood circulation in the abdominal organs are strengthened by deep breathing, and the physiological activity of these organs increases."

The author does not recommend the method if the disease is in an advanced stage, if there is hæmoptysis or severe cough, or if the temperature is over 100° F. Method and its rationale are described in detail.

Electro-Diagnosis in War. (One of the series of Military Medical Manuals issued under the general editorship of Sir ALFRED KEOGH, G.C.B., and Lieutenant-General T. H. J. C. GOODWIN, C.B., C.M.G., D.S.O.) By A. ZIMMERN, Professor Agrégé of the Faculty of Paris; and PIERRE PEROL, formerly Intern of the hospitals of Paris. Edited with a Preface by E. P. CUMBERBATCH, M.A., M.R.C.P., Medical Officer in Charge of Electrical Department, St. Bartholomew's Hospital, &c. London: University of London Press, Ltd. 1918. Pp. 212. 7*s.* 6*d.*

ELECTRICAL testing is one of those several subjects that have suffered much at the hands of their friends, and unfortunately claims prompted by early enthusiasm frequently lead to a prolonged stifling in the development of a new line of investigation; this undesirable state is accentuated in the case of a subject that is both highly technical and difficult. This volume should do much to place electrical testing in its proper place among other methods of clinical investigation. The authors are at some pains to show that the method is only an accessory to others, though at times an indispensable one. They further show that electrical testing has not failed in any given case simply because it has been gone over by someone armed with a faradic coil. Profound knowledge and extensive experience are required before the proper technique can be carried out and correctly interpreted, and the authors emphasise the necessity for repeated tests since abnormal reactions are not permanent but vary from week to week or month to month. An important contribution is an electrical method of testing cutaneous sensation in which the stimulus is measured and can be repeated on subsequent occasions. There are other methods of equal importance, making the work the most complete account that has yet appeared of the uses of electrical methods in the investigation of paralysis occurring in war and in peace.

JOURNALS.

Medical Quarterly. Vol. I., No. 1, January, 1919. Department of Soldiers' Civil Re-establishment, Canada.—The aim of this new journal is to disseminate medical knowledge of a general nature as applied to the rehabilitation of the ex-soldier, not only as it affects his physical condition, but his mental attitude towards social and economic life. The number includes three papers on tuberculosis and a paper on an outbreak of influenza at a sanatorium.—Dr. J. H. Holbrook points out that the extent of fibrosed lung in discharged men should be taken more fully into account by the Pension Boards: with a pension of only $10 a month the man is tempted to exceed his working capacity and breaks down. In men who have been gassed he has observed that it takes very little exertion to manifest shortness of breath; the men readjust themselves to their disability, but if they are not dealt with very generously during the readjustment period, not on the basis of actual disease but on the basis of fibrosis, they will run great risk of repeated breakdowns. He suggests that the Canadian Red Cross Society should, as in the United States, lend their assistance to antituberculosis organisations.—Captain A. T. Bond, C.A.M.C., considers that the pensions of men with consumption, a disease so liable to relapse, should be fixed every six months; the evil of overwork must be prevented by sufficient pension.—Lieutenant-Colonel J. L. Biggar, one of the co-editors, writes an interesting summary of recent articles on war neuroses; each of the authors quoted appear to have invented a different set of terms; the general conclusion, however, seems to be that the neuroses arise as the result of the mental strife between the emotion of fear and the men's "higher selves." As a result of the mental strain thus set up the patient becomes hyper-suggestible.—Dr. C. B. Farrar describes the arrangements made for dealing with Canadian soldiers discharged with nervous and mental disorders. He considers with a careful and judicious elimination of recruits with a definite psychotic history or potential the number of psychoses among returned soldiers might have been reduced by at least a half.—In a paper on the medical services of the department Lieutenant-Colonel F. McKelvey Bell, the other co-editor, points out that wherever possible the vocational medical officer should have some knowledge of the various industries in which the men are about to engage. "It is a matter of considerable difficulty for the average physician to estimate just what disabilities or diseases preclude the various occupations, but experience in this branch is being rapidly gained by the physicians who have undertaken this important and interesting phase of the work of rehabilitation." Reports from these physicians on this branch of the work would be very valuable; so important are they that we would suggest that the department should require periodic returns showing the work found suitable and unsuitable for men with various defects.

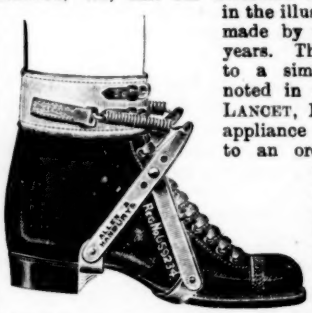
The American Review of Tuberculosis. Baltimore: National Association for the Study and Prevention of Tuberculosis. 35 cents.—The November number is mainly devoted to the complement-fixation test, the first four papers dealing with various aspects of this test. The verdicts passed on it are not unanimous. Dr. Lawrason Brown and Dr. S. A. Petroff, for example, with a material of 540 cases, conclude that this test is of value to the clinician, and, like the subcutaneous tuberculin test, is more instructive when it is negative than when it is positive. Dr. B. Stivelman, on the other hand, concludes his paper with the judgment that this test, when negative, does not exclude clinical tuberculosis, and, when positive, does not necessarily indicate the presence of clinical tuberculosis. In fact, it gives no better information than the subcutaneous tuberculin test.—Dr. H. Kennon Dunham's paper on the X ray examination of the chest contains much useful information, and is a plea for the more extensive employment of the stereoscopic principle.

The Military Surgeon (Washington, D.C., U.S.A.) for November has a note by Surgeon Chas. E. Riggs, of the Medical Corps, U.S. Navy, telling of eight cases of small-pox which occurred in U.S. ships on their China station between August, 1917, and April, 1918. Half of them were severe cases and fatal, half were slight. It is doubtful if the first case had been recently vaccinated. There is a history of vaccination and recent vaccination in all of them, but it seems that in the United States a single vaccination scar satisfies everyone, but it does not appear to secure immunity, or did not in these cases, which support the English practice of four vaccine marks at each vaccination. It is difficult to understand the table of relation of dates of vaccination and outbreak of small-pox, until it has been recognised that 9.4.17 is not intended to mean 9th April, 1917, as one expects, but 4th September, 1917.—Major Sidney J. Myers gives an account of a convalescent camp for 800 patients in Kentucky, a camp to reside in which was meant to be both a pleasure and a profit. The patients received have been in the base hospital adjacent and are getting well. They have no temperatures, and are able to walk from their wards to the mess-house. No infectious cases are transferred nor any wanting special diets. On admission patients are classified in four groups: (1) resting, who go to lectures only; (2) light exercise, who go short walks, &c., always accompanied by a medical officer and ambulance; (3) drill group; (4) reconstruction group, who have just not passed into the Army but can be made fit by a couple of months' physical training. All duties are voluntary, but by nearly all are eagerly undertaken. Lectures are well attended. There is much material in each barrack to interest the men between times, signalling apparatus, rifles dissected, military maps, and so on. Band concerts are given on holiday afternoons. It is concluded that the time of convalescence lost in ordinary hospitals is here put to profit for teaching hygiene, diseases, military law, and sketching, &c.; 90 per cent. of the patients have taken to the system quite readily, and men go back to duty more quickly this way.

New Inventions.

A "DROP-FOOT" APPLIANCE.

Messrs. Allen and Hanburys, Limited, Wigmore-street, London, W., call our attention to the appliance shown in the illustration, which has been made by them for the past two years. Their letter is in reference to a similar appliance recently noted in our columns (see THE LANCET, Feb. 15th, p. 284). The appliance can easily be attached to an ordinary boot by means of screws and in certain cases should prove efficient. Pressure over the tendo Achillis would, in our opinion, however, be likely to produce discomfort notwithstanding the fact that the strap is padded. The intelligent coöperation of the wearer is needed to make any such orthopædic assistance permanently comfortable. A little ingenuity on the part of the wearer can generally obviate painful pressure, wherever manifested.



THE LANCET.

LONDON: SATURDAY, MARCH 22, 1919.

State Subsidy of Tuberculous Labour.

IN a paper which we publish elsewhere in our columns the author, Mr. P. C. VARRIER-JONES, makes a step forward along a track paved with a dreary mosaic of failures. The first principle he would have us recognise is this: It is not the unfit that become tuberculous, but the tuberculous who become unfit. Hence his concentration on measures to protect the community from the infectious case. His programme may be summed up in the one word segregation, a term for which we devoutly wish there was a kindlier synonym, not suggestive of the leper. Mr. VARRIER-JONES'S scheme for segregation is, however, kindly as well as sensible; and, as its workings have already shown at the Papworth Colony, it offers not a prison but a city of refuge to the tuberculous patient. At present the patient with a tuberculous lesion of any gravity cannot successfully compete in the open labour market, and when his services are accepted they are often mercilessly exploited by the employers who reward part-time work with a pittance. According to Mr. VARRIER-JONES'S scheme the patient would be delivered alike from the sweating of the thrifty employer and from the doles of the philanthropist, and by a State subsidy would be enabled to continue work under conditions most favourable to himself as well as to the community. As the experiments at Papworth show, this subsidy need not be large. But even a modest subsidy, representing only a fraction of the patient's earned income, may make all the difference. "The little more and how much it is." After all, it is the pace that kills, and the investment which enables the tuberculous to amble happily through life without endangering the lives of others is surely a wise one.

As Dr. NOEL BARDSWELL has pointed out at a meeting of the Faculty of Insurance on Feb. 27th, it may be long before any London authority can be persuaded to establish special communities for the thousands of tuberculous subjects requiring subsidy. We doubt not that he is right. The initial outlay would be too enormous for any public body to take the initiative in incurring it. And were it a matter of philanthropy only, or of mere justice, the realisation of this ideal would probably be postponed indefinitely. Even the argument that it is "good business," an investment that will ultimately pay the community handsome dividends, may fall on deaf ears. But let the taxpayer learn that he is defending himself and his family from a deadly scourge and he will pay readily, if not gladly. The old policy of patchwork, of niggardly doles, is bankrupt. And the more closely it is scrutinised the more does its futility become evident. But till the community realises that three months' treatment in a sanatorium is but one link in a long chain, the temptation to stop short at forging this one link will be invincible. As matters now stand, sanatoriums are falling into disrepute because the impossible is being demanded of them. The aphorism, "Once tuberculous, always tuberculous," is so true as to be almost a truism. Yet it is, unfortunately, often ignored or forgotten, though a realisation of this elementary fact is essential to the success of any scheme for dealing with tuberculosis. Were this and other essential features of the tuberculosis problem common knowledge, its solution would be comparatively simple. It is impossible to picture statesmen and leaders of the people spending less on a war against bacterial foes than on a war against fellow beings were the facts generally known. If this argument is sound, as we believe it to be, the crying need at present is for a campaign of enlightenment conducted with skill and vigour.

Let us turn from principles and ideals to a scrutiny of facts. Mr. P. ROCKLIFF, president of the Faculty of Insurance, speaking at the meeting on Feb. 27th already referred to, said that the treatment of consumptives on an insurance basis had failed. It may provide residence for a few weeks in a sanatorium; after that the patient returns to his former unhygienic surroundings. Again, the claims of the discharged sailors and soldiers have largely led to the exclusion of the civilian patient from sanatorium accommodation—"an expropriation of other people's money which one would only have expected from a Bolshevik government." In consequence of this state of affairs, Mr. ROCKLIFF assured his audience, the institutional treatment of the insured civilian is not only farcical but tragic. His indictment of Government departments is, no doubt, deserved up to a certain point; but we suspect that they have not monopolised all the sins of omission and commission, and that local authorities are not innocent of the gentle arts of obstruction, reaction, and circumlocution. The public, too, must shoulder some degree of responsibility for evils arising from general ignorance and lack of interest in the public welfare. A perusal of Dr. NOEL BARDSWELL'S paper, which we publish in our present issue, on the training colony at Kinson for early cases of tuberculosis, gives the critical reader no rosy illusions. The task undertaken is evidently full of difficulties, some unanticipated. A considerable proportion of the colonists left the settlement before their term had expired. Others, though still in residence, are not expected to be fit enough to become independent smallholders. Twelve months' training, it has been found, is not sufficient save in exceptional cases with previous experience. And what of the marketable value of the patient who has mastered his new profession? Dr. BARDSWELL does not venture any optimistic forecast, and we gather that he has come to the conclusion that this scheme, too, is a link, not a complete chain; and that if permanent success is to be achieved the

training colony must not be satisfied with turning out its inmates to sink or swim in the open market, but must provide sheltered conditions of labour—subsidised labour, in other words. So we come back to the inevitable conclusion: Once tuberculous, always tuberculous. And the scheme that fails to provide for the tuberculous throughout their lives can only be a partial success.

The Progress of Chemistry in 1918.

IT is interesting to learn that during the terrible times of war, and despite the depletion of personnel, chemistry, in all its branches, has been able to make advances. The Council of the Chemical Society may be congratulated on the policy which it adopted a few years ago of issuing annual reports of the progress of chemistry. The Society's journal, published monthly, is the medium through which important papers read before the society are communicated to its Fellows, and the abstracts contained in it from contemporary and foreign literature occupy the majority of its pages and cover a wide range of subject matter contributed by a staff of distinguished chemists, physicists, and physiologists. The materials, therefore, from which to compile an annual report are excellent, while the compilation is left in good hands by the selection of a certain number of these abstractors to whom the task of recording the progress of chemistry during successive years has been allotted, and making them responsible for the report.

The progress made in 1918 is of peculiar interest when it is remembered that the shadow of war for most of that period darkened all peaceful scientific effort. Enough emerges from the report to show that while the part played by chemistry in the war was of supreme importance, problems have also been solved in a valuable manner for the ordinary days of peace. For example, interesting records of work done on questions of ionisation, of osmotic pressure, and of colloid constitution, will prove as valuable to a world of peaceful development as munition work was valuable to a world of ruin. In his review of the developments which have taken place in general and physical chemistry Professor H. M. DAWSON expresses the hope that the demobilisation of chemists engaged on war work will be quickly followed by a revival of activity in the investigation of the many non-technical physico-chemical problems which call for inquiry. This is an assured sequence of events, and we may go further and assert that the lessons learnt in military exigencies will have their fruit in civil results. The review of the developments during the year in the field of inorganic chemistry contributed by Professor E. C. C. BALY, shows that in this division there was a marked diminution in the number of papers published. Generally speaking, the work has been restricted to the preparation of new substances which have no direct interest to medicine. Exception occurs in the case of the preparation of inorganic colloids, as, for example, nickel and mercury, in which glycerol containing gelatin or gum-arabic is employed as a protective colloid. For the employment of colloidal metals in medicine is increasing. In the region of organic chemistry, in spite of original ability being largely directed into emergency channels, there are signs of research work entering on a more active phase, to quote Professor J. C. IRVINE on the aliphatic division of the science which, of course, comprises the hydrocarbons, alcohols, and carbohydrates, including the sugars. Catalysts have here played a strong part, notably in the case of alcohol, reducing that complex to aldehyde, or as far as a hydrocarbon, ethylene. The isolation referred to in this section of an oil from shark liver containing 90 per cent. of an unsaturated hydrocarbon has already been mentioned in our columns. It is the first time, we believe, that a hydrocarbon or non-saponifiable oil has been found in the animal organism.

During the year considerable attention appears to have been given to the study of natural products mainly in the alkaloid group, and Professor A. W. STEWART regards it as a hopeful sign that organic chemistry is once more turning back to its original field, leaving a little aside the purely synthetic research which at one time threatened to divorce the general science from naturally occurring materials. The investigations centering about the connexion between chemical constitution and physiological action in the cocaine series are of interest. In the course of this investigation a useful compound has been isolated; it has been termed eccaine, and is reported to be more active than cocaine as a local anæsthetic, with the additional advantages of being non-toxic and sufficiently stable to render its sterilisation easy. Further progress is reported towards the complete synthesis of quinine, and the constitution of the ipecacuanha alkaloids has been successfully studied. Analytical chemistry has suffered through shortage of materials and apparatus, which has led to the devising of more economic methods and the recovery of reagents. One curious example of this is the use of an alloy of 11 per cent. of platinum with 89 per cent. of gold as a substitute for platinum in analytical work. Dr. F. GOWLAND HOPKINS, in reviewing the progress of physiological chemistry, reports that the papers dealing with the dynamic side of physiological chemistry—the process of metabolism—have been few. He deals chiefly with the contributions that have been made on emulsoid colloids, chemical factors in shock (gum-arabic solutions in the treatment of circulatory failure), the phosphorus complexes of living cells, and the degradation of carbohydrates. With regard to radio-activity Professor FREDERICK SODDY writes that the most important advances are concerned with the discovery of the parent of actinium—proto-actinium—which, in addition to adding an interesting chemically new element to those discovered by radio-active methods, completes probably the long sequence of changes suffered by the radio-elements. We are glad to know that these annual reports, containing as they do a valuable and authoritative epitome of the principal definite steps in advance made in each successive year, are available to medical men.

The Ministry of Health Bill: The Inspection of School Children.

A Standing Committee of the House of Commons, which is now considering the clauses of the Ministry of Health Bill, adopted on Tuesday last an important amendment without a division, and in the face of protests from Dr. ADDISON and Mr. H. A. L. FISHER, the two Cabinet Ministers whose functions were immediately concerned. The amendment provided for the immediate transfer to the Ministry of Health of the functions of the Board of Education in regard to the medical inspection and treatment of children and young persons. The Bill, it will be remembered, proposes to combine under one State Department the existing responsibilities of the Local Government Board as far as health is concerned and all the functions of the Insurance Commissions for England and Wales, and also proposes to include the duties of the Board of Education in respect of the health of expectant and nursing mothers and children under school age. But with regard to the medical inspection of school children and young persons, a duty which now appertains to the Board of Education, it was understood that that Board would not resign without real regret its responsibilities in this direction; and on the introduction of the Bill it was stated that no such step would be found immediately necessary. Mr. G. LOCKER-LAMPSON, however, proposed an amendment in the sense indicated above—namely, to provide that all the powers and duties of the Board of Education with respect to the medical inspection and treatment of children and young persons should be transferred to the new Ministry of Health. A brief account of the debate which followed will be found in our report of Parliamentary proceedings, from which it is clear that the amendment was carried in deference to a practically unanimous feeling on the part of the Committee in its favour. The Committee held the view that as the object of the Bill was to take over the health services from the various departments of the State, and thus to prevent overlapping, medical inspection and treatment of school children could not be left outside its scope. In any case it is only during school hours—a small part of the child's day—that the Board of Education exerts its influence. Dr. ADDISON pointed out that under the Bill there were two categories of services—those to be transferred forthwith, and those for which room would be made later on; and he warned the Committee that to put too much on the shoulders of the new Ministry at the outset might be to risk a breakdown. But as a matter of fact it was felt by many medical men on the introduction of the Ministry of Health Bill that the medical inspection of school children and young persons formed a necessary part of the duties of any Ministry of Health; while it may be recalled that dissatisfaction with the provision for the medical treatment of school children under the Board of Education was strongly expressed in the House of Commons in July last, on the report stage of the Education Bill, and led to its recommitment in this respect. The Standing Committee of the House of Commons have moved, perhaps, with more directness than was anticipated, but when the Bill was drafted no doubt those in charge of the task expected to encounter opposition at this spot. The amendment, which we welcome as a step taken now which it was intended to take in the near future, will be reviewed on Report.

Annotations.

"Ne quid nimis."

MUSTARD GAS: ITS BRIEF BUT INGLORIOUS CAREER.

Sir William Broadbent is credited with the remark that a health resort, as soon as it became well known as such, ceased to be a health resort. Something similar has been the case of mustard-gas poisoning. The military censor kept from all except a very small circle all information regarding the gas as a deadly weapon of offence, and now that we are allowed to learn about it, it has ceased to be a deadly weapon. Mustard gas began its inglorious career as a constituent of "yellow cross" shells on July 12th, 1917, and ended it, we presume for ever, last week, when the Paris Conference decided to make the cessation of its manufacture a condition of renewing the armistice with Germany. Most of the clinical and all the experimental information is available in the reports of the Chemical Warfare Medical Committee, of which Professor Leonard Hill is chairman and Dr. J. S. Edkins secretary, issued by the Medical Research Committee. The contributions of Dr. T. G. Moorhead and Dr. William Boxwell, read before the Royal Academy of Medicine in Ireland,[1] give a useful survey of the whole field, and we have had before us the report of remarks on the eye lesions following exposure to the gas made by Dr. G. Viner, Captain, R.A.M.C., at the Le Tréport Medical and Surgical Society.

Chemically, mustard gas is di-chlor-ethyl sulphide. Watts's Dictionary of Chemistry (1890 edition) gives particulars of its preparation from glycol chlorhydrin, potassium sulphide, and phosphorus pentachloride, the product being described as very poisonous and violently inflaming the skin. Although popularly called a gas, it is an oily liquid, boiling at 217° C., with a slight but agreeable ethereal odour resembling pineapple. Some claim to notice a faint aroma of mustard, but unlike the suffocating gases known from earlier experience, mustard gas was unsuspected by our troops, who, misled by the latent period before the onset of symptoms, suffered from poisoning in an acute form ere its evil properties were realised. Nearly insoluble in water and only slowly decomposed by it, mustard gas naturally exercises its principal effect upon the moister areas of the skin, especially the bathing-drawers area and the axillary folds, as well as on the mucous membranes, beginning with the conjunctiva, nose, and mouth, and soon extending downwards throughout the whole respiratory tract. Even conjunctivitis does not set in for three hours or more, vomiting and epigastric pain, when they occur, are delayed for five or six hours, burns take 12 hours or more to develop, and the laryngitis, tracheitis, and bronchitis do not reach their full degree until 48 hours or even longer after exposure. The lateness of the cutaneous and mucous symptoms has suggested to some observers that they are due to excretion by the skin and membranes after absorption in the lungs rather than by direct action. But the slow decomposition in the presence of moisture is a more likely explanation. The ill-effects reach a maximum in the first two or three days and, if the resulting anoxæmia does not then prove fatal, late results are much less common than

[1] Dublin Journal of Medical Science, Jan. 1st, 1919.

when suffocating gas has been inhaled, a fact which emerges from Professor Achard's abundant experience, as our Paris Correspondent recorded last week. The nature of the dangerous pulmonary lesions was made clear early by the experimental work carried out by H. M. Carleton in the Oxford Physiological Laboratory. In the acute stage he found desquamating tracheal epithelium, within its lumen an inflammatory plug of leucocytes and red blood cells, a similar but more advanced condition throughout the whole bronchial tree with swelling and shedding of the cells lining the alveoli. In the stage of recovery the alveolar walls were still thickened, many of them collapsed, and the blood-vessels in a state of dilatation. The latter changes are evidently the commencement in milder form of the pulmonary sclerosis which is such a lasting and disabling sequel of exposure to suffocating gas.

The treatment of the immediate effects of exposure to mustard gas is simple and obvious. An immediate warm alkaline bath to neutralise any oil left on skin, warm isotonic alkaline washes for the throat and nose, menthol steam inhalation for the respiratory tract. In cases with severe involvement of the respiratory tract the diminished surface for absorption of oxygen demanded the same measures as for the victims of suffocating gas. The burns produced on the skin were often found intractable to any form of treatment. It soon became evident that the physical effects of the poisoning were liable to be supplemented by a functional element due to the appalling nature of the experiences undergone by the exposed man. The acute onset of symptoms long after the exposure to the gas, and the tension of expectation thus produced, were factors likely to upset the mental balance of all except the most phlegmatic. It became a rule among medical officers to return patients making good progress to army discipline with the least possible delay, and to avoid prolonged stay in hospital, which was found specially apt to establish neurotic conditions. Every effort was made to deflect the patient's attention from the condition of his eyes, shades and coloured glasses being only exceptionally used. Vomiting of persistent and troublesome type appeared to be a neurotic symptom and its occasional recurrence after intervening months of recovery confirmed this view of its nature. The whole distressing story of mustard-gas poisoning teems with medical interest. But while its lessons are worth taking to heart, we may well hope that the disease itself need only appear in the future text-books of medicine as a curiosity and the relic of a savage age destined never to return.

COLLOID METALS AND PHENOL IN THE TREATMENT OF INFLUENZA.

DURING the recent epidemic many different opinions have been expressed by writers in the Italian medical press as to the value and efficacy of various methods of treatment in severe cases of influenza. Of these methods two claim, perhaps, special notice as being more frequently adopted by our Italian colleagues than they are in this country. Dr. Miggiano[1] draws attention to the value of injections of ethylhydrocuprein into the gluteal region, and states that he has noticed areas of broncho-pneumonia rapidly clear up in 24 hours after a single injection, the characteristic signs of infiltration of the pulmonary tissue being replaced by a group of crepitations and consonant râles. Two or three injections on successive days, in doses appropriate to the age of the patient, sufficed to improve the general condition, reduce the temperature to normal, and induce resolution of the pneumonia. Much the same results are claimed for colloidal gold by Professor P. Rathery, of Paris, and three collaborators, in an important study[2] of the pulmonary manifestations of influenza. The *chute thermique* which occurred sometimes after the first dose was associated in their experience with a complete change in the patient's general condition. Dr. Sebastiano Orlando[3] obtained very striking results at the Military Hospital in Florence by intravenous injections of phenol in troops sent from the front with influenza complicated by severe bilateral broncho-pneumonia, and was equally successful in the administration of this drug by intramuscular injection and by mouth. He gave two daily injections of 5 c.cm. of a 2 per cent. solution of phenol, and by mouth 1 g. daily of phenol in 300 g. of water and 50 g. of syrup of aniseed. The results were equally good, but the curative processes occupied a much longer time by the oral method. This treatment had no injurious effect on the kidneys, but, on the contrary, the albuminuria which so often accompanies severe cases of influenza tended to disappear. Dr. Orlando claims as a result that while in October, 1912, in the province of Massa he had a death-rate among his influenza patients treated on the usual lines of 6·4 per cent., with phenolisation he obtained 100 per cent. cures, except in those cases where treatment was delayed until too late.

[1] Il Morgagni (Part II.), Feb. 15th, 1919.

THE WARBLE FLY.

THE damage caused to cattle, meat, and hides by the ravages of the warble fly has at last been made the subject of Government inquiry, and a scientific subcommittee has been appointed to supervise and control experiments, which are to be carried out in different parts of the country in order to discover, if possible, a method of eradicating this pest. Two species of warble flies, *Hypoderma lineatum* and *H. bovis*, occur commonly in this country, and though they have been studied for nearly half a century it is only during the last two or three years that the details of their curious life-cycle have been elucidated. The female fly attaches her eggs to the hairs of cattle, invariably on the legs or lower part of the body. If the cattle become aware of the presence of a warble fly they show much excitement and run about in a peculiar frightened manner known as "gadding," which may often be observed on sunny days in early summer. About three days later the egg hatches, and a tiny maggot emerges and climbs down the hair, burrowing its way into the hair follicle, whence it apparently enters the blood stream and eventually reaches the gullet. The fact that the next stage occurs in this site led to the belief that the cattle licked off the eggs from the hairs and that the young larvæ hatched in the gullet, but it has been shown that careful muzzling does not prevent cattle from becoming infected. The maggots appear in the wall of the gullet towards the autumn and remain there all the winter. About March they go to the back by travelling through the tissues of the animal. One route is for the maggots to leave the gullet near its junction with the paunch and enter

[2] Paris Médicale, March 1st, 1919.
[3] La Riforma Medica, Jan. 18th, 1919.

the connective tissue of the diaphragm, which they follow between the strands of muscle downwards and outwards till they reach the cartilage of the ribs. They then proceed along the posterior border of a rib, always in the connective tissue, and either go straight to the hide of the back, or find their way into the spinal canal, from which they emerge nearer the animal's tail. Established in the hide, a cyst, or "warble," is formed round the maggot, which now makes a hole to the exterior for breathing purposes. In due time the larva comes to maturity and falls out of the warble to turn to a chrysalis in the ground. The adult fly appears about five weeks later, the whole life-cycle taking about one year for completion.

The chief damage caused by these flies is that to the hides of cattle, resulting from the perforations of the warbles. A moderate estimate puts the annual loss in damaged hides at upwards of £300,000 in this country alone. In addition, the presence of the cysts in the back causes the flesh to develop an unpleasant appearance known as "jellied beef," which considerably reduces its market value. Add to this the loss of condition in the animals attacked and it will be realised how serious are the ravages of this pest. It is to be hoped, therefore, that the efforts of the Government will result in the discovery of some method of dealing with the warble fly and preventing these losses.

INDUSTRIAL DISPUTES IN ASYLUMS.

THAT third parties should suffer in consequence of a dispute for which they are not responsible has been such a customary experience during the past few years that an additional instance may attract only a moderate degree of attention, even though some of the victims of it are more helpless than usual. The contest between the various asylum authorities throughout the country on the one hand, and the National Asylum Workers Union on the other, appears likely to prejudice the interests of those whose needs are ostensibly the care of both parties, and there have already been cases in which the issue has been fought out irrespective of the well-being of the insane in the asylums, or of the general community outside. Since the brunt of any trouble which arises in this way has to be borne primarily and chiefly by the medical men in charge of the institutions affected, it is but natural that these gentlemen should be feeling some anxiety as to the course of events, and that the body which is, in a measure, representative of them should be displaying a certain liveliness. On two occasions recently, at well-attended meetings of the Medico-Psychological Association, attempts have been made to find some satisfactory way of ensuring for medical superintendents a voice in deciding questions with which they are intimately concerned and in regard to which they are especially qualified to speak. A resolution adopted on Feb. 20th urged "the provision of an advisory board of experienced medical officers of asylums to indicate how any alterations proposed would affect the welfare of the patients," but it seemed to be generally realised that however valuable this expression of opinion might be as such it would not advance matters very considerably unless one or other belligerent should show some disposition to ask for advice. The attitude of those who were present at the second meeting appeared to be that to bring about effective intervention it would be necessary for medical superintendents to obtain representation on any committee of local authorities which might be constituted, though it was felt that this proceeding might introduce its own peculiar difficulties by setting a medical superintendent in opposition to the staff nominally under his control. Looking at the matter from the standpoint of the national welfare, there can be no doubt as to the expediency of giving full weight to the opinions of asylum superintendents in relation to matters of asylum administration, and since the general public needs the assistance of the superintendents the general public should take steps to get it. Probably the most effective method would be to bring pressure to bear on the Minister of Labour and on the Minister of Health, when appointed, through the instrumentality of Members of Parliament. The Medico-Psychological Association could then appoint an advisory body with some hope of its services being utilised, and the members of the association might escape from the uncomfortable position between the devil and the deep sea in which circumstances have placed them.

DANGEROUS CHLOROFORM APPARATUS.

THE possibility of causing liquid chloroform to issue from the exit tube of some forms of pumping apparatus has long been recognised. The fatal consequences of such an accident need no demonstration. All apparatus capable of providing such a mishap should be avoided, and for many years it has been possible to obtain instruments removed by construction from such a perilous contingency. In a fatal case recently recorded in the daily press the instrument used is described as a "Hunter" inhaler. Presuming that "Junker's" inhaler is intended, it may be said at once that in the original form of this apparatus the escape of liquid chloroform to the patient was fairly easily possible, either by fixing up the tubes incorrectly or by overtilting the bottle. The late Sir Frederic Hewitt devised a modification of Junker's inhaler which is perfectly safe as regards this particular accident, and there are others in which, if not absolutely impossible, the accident can occur only by very excessive overfilling of the chloroform bottle. Such are Buxton's modification of Junker's inhaler and Shipway's warm vapour apparatus. We would most warmly recommend young anæsthetists to examine any pumping apparatus from which they propose to administer chloroform very carefully before they use it, and to bear in mind the accident alluded to above.

AN ANALYSIS OF 8670 OPHTHALMIC CASES TREATED AT A HOME HOSPITAL.[1]

Major A. W. Ormond here analyses the ophthalmic cases at the 2nd London General Hospital down to the end of 1917. Of 684 cases of "blindness" (most of whom were transferred to St. Dunstan's) 340 were completely without sight, and 175 of them had no eyes, both having been either destroyed by the injury or removed subsequently on account of pan-ophthalmitis, pain, &c. The cause of blindness was, in general, either the passage of a bullet or piece of shrapnel through the face in contact with one or both orbits, or else the bursting of a shell or bomb in front of the face; the proportion due to the latter cause exceeded that due to the former in the proportion of 3 : 2, and showed a tendency to increase in the later stages of the war.

[1] Medical Research Committee Statistical Report, No. 3.

Deliberate malingering was, during the period dealt with, very rare indeed. On the other hand, Major Ormond records 39 cases of what he terms "concussion blindness," but which might more appropriately be called psychical blindness, since they are neither cases following the passage of missiles in the vicinity of the globe and producing ophthalmoscopically recognisable results, nor cases in which a concussion of the cerebral cortex may fairly be assumed as the cause. These cases are usually the result of an explosion in the immediate vicinity of the patient rendering him unconscious. On regaining consciousness the patient is unable to open his eyes, and believes himself to be blind. He is not a malingerer. At the same time, if the true nature of the condition is not recognised in the early stage by the surgeon the prognosis of the case is enormously prejudiced. Other points in the analysis which may be noted are the rarity of sympathetic ophthalmia in this war, the disappointing ultimate results of the extraction of foreign bodies from the vitreous by the electromagnet, and the too great proportion of cases invalided on account of such conditions as high myopia and nystagmus, which, if the medical inspection of these cases on enlistment had been anything more than a farce, should have prevented them from ever entering the army. The rather high proportion of injuries due to accidents not attributable to enemy action is also commented upon.

THE NURSING REGISTER.

CONTROVERSY centres at present around the proposal to grant supplemental registration to nurses trained exclusively in children's hospitals, and there is considerable opposition to including the nurses with special hospital training only in any scheme for State registration. The Central Committee for State Registration will not consider the proposal, but the Bill drafted by the College of Nursing contains a clause empowering the General Nursing Council, when set up, to institute supplementary registers to include nurses trained in other than general hospitals, the assent of the Privy Council being obtained to the conditions of training. Although this clause does not definitely establish a register for children's nurses, it grants power to the General Nursing Council to do so, and in this respect goes one stage further than any other association working for State registration of nurses. Although the nursing of children is not identical in every respect with the nursing required by adults, because the range of disease is different, a three-years' course of training in a children's hospital has the whole framework of a liberal nursing education, and we think that it would only be fair to nurses so trained to grant them the status conferred by entry upon a supplementary register. The other nursing specialties might then be pigeon-holed by the State, and in this way justice would be done to the special nurse and protection granted to the general-hospital-trained nurse, and the one would be less likely to encroach on the province of the other. It seems likely that a Parliamentary Committee will be appointed to consider the two registration Bills which are now being promoted, and one of which has just been read a first time in the House of Commons. A compromise may then be laid before Parliament. The position of the College of Nursing is strengthened by the fact that beyond the promotion of State registration it has a definite programme of education. A scheme of affiliating children's hospitals with particular general hospitals is the policy of the College, and has already been adopted in one or two instances. The time spent by the nurse at the children's hospital is then counted as part of her general training. To those who are outside the actual arena of conflict a compromise on these lines would seem not difficult of arrangement. Given a working scheme of State registration as a basis the rest should soon follow.

A LARGE WASTE OF ACCESSORY FOOD MATERIAL.

NOW that it has been shown that the anti-scorbutic properties of lemon juice are in no way connected with the citric or other acids present, and that the accessory factor can readily be separated from these acids, attention may well be directed to the manufacture of citric acid from lemon juice on a large scale in such a way as to save the vitamine for special dietetic purpose. The world's yearly output of citric acid so prepared runs into many hundreds of tons. The acid itself is separated and recovered by a very simple process. Chalk is added to the juice, when insoluble calcium citrate is formed. The precipitate is removed and treated with an equivalent amount of dilute sulphuric acid, which liberates the citric acid, leaving behind insoluble calcium sulphate, part of which is deposited and the rest removed by filtration. Concentration and crystallisation of the clear fluid complete the process. It is obvious that the liquor strained off from the calcium citrate must be rich in the antiscorbutic factor, but as far as we know it has not been utilised. Here is a valuable source of accessory substance which should be saved. We suggest to manufacturers of citric acid from lemon juice that they devise some simple means of recovering the vitamine in a convenient form for transport and administration. In so doing a supply of essentially useful nutritive material would be rendered available without interference with the citric acid manufacture. Should the process, however, involve prolonged heating, the vitamine would possibly not survive, but steps might conceivably be taken to avoid such an occurrence.

A DIMINISHING POPULATION.

WITH the cessation of slaughter on the Western Front pestilence took up the task of keeping down the surplus population, and in the last quarter of 1918 the number of civilian deaths in England and Wales, as stated in the Registrar-General's returns, exceeded the number of births by 79,443. An actual diminution in the population in any quarter of the year was previously unknown during the whole period for which exact figures are available. It was, of course, principally the result of the influenza pandemic, which is officially credited with a casualty list of 98,998, or 41 per cent. of the total deaths registered. And this figure is more likely to be under-estimated than exaggerated. In the face of such a violent quake to the whole apparatus of vital statistics it seems hardly worth the trouble to attempt to estimate the effect of the customary small oscillations in birth and death rate. Suffice it to note the encouraging fact that 8000 more births were recorded than in the corresponding quarter of 1917. But here, too, the aftermath of war is seen in the unusually high proportion of illegitimates.

ROYAL INSTITUTE OF PUBLIC HEALTH.

THE Council of the Royal Institute of Public Health are arranging for a conference in the Guildhall, London, on "Problems of Reconstruction in Relation to Public Health," from June 25th to 28th. The opening meeting will be held in the Egyptian Hall of the Mansion House on Wednesday, June 25th, at 3 P.M., when the Lord Mayor of London will preside. The conference will mainly consider the following matters: (*a*) "The Work of the Ministry of Health"; (*b*) "The Prevention and Arrest of Venereal Disease"; (*c*) "Housing in Relation to National Health"; (*d*) "Maternity and Child Welfare"; (*e*) "The Tuberculosis Problem under After-war Conditions." Further particulars will be supplied by the secretary of the institute, 37, Russell-square, W.C. 1.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

HOSPITALS in the County of London or within nine miles of Charing Cross desiring to participate in the grants made by King Edward's Hospital Fund for London for the year 1919 must make application before March 31st to the Honorary Secretaries, 7, Walbrook, E.C. 4. Applications will also be considered from convalescent homes which are situated within the above boundaries, or which, being situated outside, take a large proportion of patients from London. Applications will also be considered from sanatoriums for consumption which take patients from London or which are prepared to place beds at the disposal of the Fund for the use of patients from London hospitals.

Colonel A. H. Tubby, A.M.S., has relinquished his duties as consulting surgeon to the Egyptian Expeditionary Force and resumed his private work.

Mr. Edred M. Corner will deliver the Harveian lecture of the Harveian Society at the rooms of the Medical Society of London, 11, Chandos-street, on Thursday next, March 27th, at 8.30 P.M., taking as his subject "Nerves in Amputation Stumps." Invitation is extended to all members of the medical profession.

WITH the April issue the Medical Supplement to the War Office *Daily Review* is being discontinued, but we are glad to learn that the change is only one of name and outward form. The Medical Research Committee have arranged to continue the issue of a Centralblatt, and hope to extend its range to cover British as well as foreign medical literature. An early announcement will be made on the subject.

KIDDERMINSTER INFIRMARY: PROPOSED WAR MEMORIAL.—A representative meeting of the burgesses of Kidderminster has been held at the Town-hall, under the presidency of the Mayor, to consider a proposed extension of Kidderminster Infirmary as a war memorial. It is suggested that the children's department should be extended, a new out-patient department and laundry built, and various additions made which will result not only in a building of architectural beauty, but provide at the same time accommodation for returned soldiers and their dependents who may need treatment, for work in connexion with the Child's Welfare Centre, for expectant mothers, and for tuberculous and venereal diseases, as well as for the general work of the hospital in connexion with the sick poor. Next year the infirmary will celebrate its hundredth anniversary, and the present is considered an opportune time to make an appeal. The cost of additional buildings and alterations is estimated at about £25,000, and Mr. Stanley Baldwin, M.P., has already given £5000 for the new children's ward.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

A Ministry of Health for Ireland.

THE question of a Ministry of Health for Ireland is one which looms large in the minds of those who have the good of the country and the welfare of its inhabitants at heart. The housing problem in Ireland is not more acute than it is in England only because the people themselves do not realise that their dwellings need improvement. Much has been done in the past through the Department of Agriculture, the moving spirit of which was Sir Horace Plunkett, in assisting by means of grants and in other ways the erection of labourers' cottages, but much more remains to be done. The slums of parts of Dublin and their equivalent in many outlying rural districts will bear comparison with the worst which can be found in London, Cardiff, or Glasgow, but no one bemoans them in the Irish press, probably because they are out of sight. It might be thought that a country with such large rural areas as Ireland would show a low mortality from tuberculosis, but precisely the opposite is the case.

Irish Vital Statistics: Conditions of Medical Service in Ireland.

At a meeting of the Statistical Society of Ireland held on Feb. 28th the Registrar-General, Sir William Thompson, who presided, said that between one-seventh and one-eighth of the total number of deaths occurring in Ireland were caused by tuberculosis in its various forms. The deaths from this disease in England and Wales during the quinquennial period 1911 to 1915, compared to 1866 to 1870, showed a reduction of 56 per cent., whereas in Ireland the reduction was only 13 per cent. In 1916 the death-rate from tuberculosis for England and Wales was 1·53 per 1000 of the population; in Ireland for the same year the rate was 2·15, a difference of 0·62. In Ireland in 1917 the total death-rate was 16·8 per 1000, or 2·4 per 1000 higher than England and Wales. The infant mortality rate in England and Wales in the quinquennium 1911–15 compared to that of 1866–70 showed a reduction of 30 per cent., whereas in Ireland the reduction was only 4 per cent. Experts were agreed, he said, that the infant mortality rate should fall between 40 and 50 per 1000 births. In Ireland the rate for the ten years 1907 to 1916 was 92.

Comparing the same quinquennial periods Dr. M. F. Cox, in the course of a paper which he read, said that the death-rate in England and Wales had decreased by 36 per cent., in Scotland by 29 per cent., whereas in Ireland it had risen by 2 per cent. Dr. Cox also drew attention to the fact that, though the Poor-law officers rendered splendid services to the poor, they were wretchedly underpaid at all times, but more especially at present. Many of the dispensaries were, he said, utterly and disgracefully unsuitable for the ministration to the wants of the sick poor; the space afforded was inadequate, and provision for privacy and for proper examination was entirely wanting.

Sir John William Moore drew attention to the fact that only two county boroughs in Ireland had medical officers of health—namely, Dublin and Belfast. Every hospital in Dublin was in debt and required State aid. It was an outrage he said, that men acting as labourers should get as much or more than the dispensary medical officers.

Sir T. W. Russell thought that it would be wiser to press for a separate Bill for Ireland than to extend the present Ministry of Health Bill. The fact that they were legislating in the absence of over 70 Irish Members would have to be considered, and what these men would say would have to be taken into account. It was possible that they could get the opinion of the country without them. There can be no doubt that Ireland needs a Ministry of Health, and this should not be withheld from her because certain of her Members have refused to attend at Westminster.

Proposed Establishment of Irish Public Health Council.

The Chief Secretary for Ireland, in whom is vested all questions of policy and administration for the Irish health measure, has tabled an official amendment in reference to the establishment of an Irish Public Health Council. It is to consist of the vice-president (Sir Henry Robinson) and two other commissioners of the Local Government Board (as the

Chief Secretary is president this means that the Local Government Board would have four members on this Irish Public Health Council), one or more of the Irish Insurance Commissioners, nominated by the Chief Secretary, the Registrar-General, and such number of registered medical practitioners—not exceeding three—as may from time to time be nominated by the Chief Secretary; one is to be a woman and one a medical practitioner holding a diploma in public health, sanitary science or State medicine.

An Irish Public Health Council so constituted will never satisfy the medical practitioners of Ireland. They feel (1) that they will not have sufficient numerical representation on such an advisory health board; (2) they will demand the right of electing their own members rather than having them nominated by other boards in Dublin; (3) they argue that the Local Government Board would have a preponderating influence, and that such an Irish Public Health Council must not be made a subcommittee of the Local Government Board, as occurred in the case of the Midwives Board for Ireland. It should be a committee with medical practitioners representative of the whole country, north and south, and not of Dublin alone. In the past whatever official guidance in public health matters there was emanated from Dublin, with the result that Ireland is half a century behind Great Britain in public health progress.

A Separate Bill for Ireland.

On the whole, opinion is hardening that Ireland, as in the case of Scotland, must have a Health Bill of her own suited to her backward (public health) condition. If the Chief Secretary is to be successful in passing a Health Bill for Ireland which will work he will have to consult the medical profession and frame his measure on broad democratic lines.

Unfortunately, at the present moment the Irish medical profession is speaking with an uncertain voice. The authority of the Irish Medical Committee, which represented the profession in the struggles arising out of the Insurance Act, has been challenged by the Irish Medical Association, which is endeavouring to take the controlling part. An influential deputation from the Royal College of Physicians of Ireland, appointed to wait on the Chief Secretary, has not yet been received by him. Doubtless there are little, if any, differences of opinion among Irish medical men on the general question of a Ministry of Health and the need for reform and unification of all the public services concerned with health matters. But the lack of the moment is a representative medical body to initiate a clear line of policy.

March 18th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Influenza Pandemic.

FOR the last six weeks the public mind has been greatly perturbed by the possibility of an outbreak of so-called Spanish influenza. The authorities have been on the alert since the first danger threatened from New Zealand, and at a conference of officials it was decided to call the disease "pneumonic influenza," and certain common preventive measures were agreed upon. The chief strain has fallen on the Sydney quarantine staff, as several vessels arrived in quick succession from New Zealand and the Islands with severe outbreaks among passengers and crew, in addition to one or more transports. West Australia was also called on suddenly to deal with overseas cases, in transports, of very severe type. Up to the new year the effort of the quarantine authorities to confine the disease within the quarantine hospitals has been successful, and no case has been reported on shore with the exception of a soldier who suffered a relapse after being discharged from quarantine. Up till the end of December the total number of cases dealt with at the different quarantine stations was between 1200 and 1300, and there was a death-rate of some 5 per cent. Three nursing sisters have contracted the malady in quarantine and died. The most virulent cases were among those from the *Atua*, a steamer from Fiji and the Pacific Islands. Generally speaking, the medical experience of the disease has been similar to that reported from other parts. Some of the Sydney cases exhibited hæmatemesis as a prominent symptom, and the suddenness of onset has occasionally been dramatic. The Federal Quarantine Department issued a vaccine which was used both as a prophylactic and therapeutic measure. It does not yet appear that it had any controlling influence, but it was stated that severe symptoms were modified. This vaccine was also available to the profession, and many thousands of persons have been inoculated. It is now hoped that the danger of shore infection is over as far as the cases already dealt with are concerned, and for the present the outlook is good. On the whole, the organisation of the Quarantine Department appears to have been satisfactory, but there have been many individual complaints of hardship and discomfort. In Victoria and elsewhere the Red Cross officials helped materially by sending food and medical comforts to the troopships. For a time the Director refused to admit clergy to minister to the dying in quarantine, but subsequently permission was given for clergy from outside to be allowed into the stations under regulation.

Influenza Vaccines.

In Sydney there has been a popular response to the proposal of inoculation against influenza, with the natural result that many patients suffering from complaints other than influenza declare that they have been cured by the vaccine. Many disorders, from chronic catarrh to acute neuritis, are stated to have miraculously disappeared after inoculation. Ready belief in the mysterious and novel is not unknown here. Two vaccines have been in use differing somewhat in composition. One was issued by the Federal Department, the other by the Health Department of New South Wales. Professor H. G. Chapman, of the Sydney University, has publicly deprecated the employment of vaccines without a knowledge of the infection they are presumed to combat, stating that from his experimental work inoculation appears to lessen the resistance of the patient to an attack of influenza if the organisms used in the vaccine are not those infecting the patient.

Nationalization of Medicine.

The nationalisation of medicine is a growing topic of public interest and discussion, particularly in Victoria, where the lodge dispute has been acute. The present dual control of public health administration by Federal and State authorities renders it improbable that any comprehensive scheme is likely in the immediate future. At the same time there seems a real danger that individual States may attempt some immature suggestions designed to supply cheap medical attendance. The Federal authority at present only extends to matters of quarantine, and every State has an existing department of public health controlled by a Minister and directed by expert officials. Any nationalisation scheme of Federal extent would require an amendment of the constitution. The subject is set down for consideration at the forthcoming meeting of the Federal Medical Committee. The attitude adopted by this body, which is composed of delegates from the State branches of the British Medical Association, is that no hostility to any proposal is at present desirable, but that the Association should be prepared to suggest some scheme if need arises. The Victorian branch recently appointed a subcommittee to report on the general attitude advisable. This report has not yet been adopted, but it is an open secret that while advocating a wide extension of public health activity, the establishment of a State-controlled clinical service is viewed as a retrograde step both from the public and professional points of view, and the retention of the voluntary hospitals system is strongly advised.

Ankylostomiasis.

Dr. Waite, of the Rockefeller Institute, has been engaged for some time in investigating the incidence of hookworm disease in North Queensland, and has arrived at the conclusion that the local population is being seriously affected. The subject has been brought under the notice of the Federal Government and a sum of £35,000 has been voted to assist the further investigation by Dr. Waite of the best methods for overcoming the danger. At present it is clear that the sanitary conditions are very primitive in the towns and that the proper disposal of nightsoil is an elementary need. Dr. Waite concludes that those children affected by the parasite suffer not only from anæmia, but are stunted physically and mentally and deficient in sexual development.

Australian Army Medical Corps.

Surgeon-General R. H. Fetherston has resigned the post of Director-General of the Australian Army Medical Service, which he held from the outset of the war, and has resumed

private practice. He will be succeeded by Surgeon-General (temporary) G. Cuscaden, who was Principal Medical Officer 3rd Military District of Victoria, and acted as Director during Surgeon-General Fetherston's absence in France and Great Britain.

Jan. 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Protection of Medical Practice in France.

FRENCH law admits to the practice of medicine in France only those who possess the State diploma, and this diploma in its turn can only be obtained by graduates of a French university who have entered for the full course of medical study. On the other hand, a university degree in medicine, while it includes the same technical examinations, does not demand from foreign candidates as an entrance condition any other diploma than that obtained in their own country, but the possession of such a degree does not confer any right to practise in the country and has only academic value. During the war a large number of foreign doctors have visited France and given their care to the civilian population, some of them also working in the military hospitals of the Red Cross in the absence of French colleagues on active service. Some who have now filled these places for years do not desire to return home and are asking that the tolerance exceptionally granted to them during the war shall be transformed into a regular authorisation. These individuals have readily acquired a University diploma which they now ask to have changed into a State diploma. This change is provided for by the law, but requires the candidate to pass anew his last examinations with a resultant delay of years. The foreign doctors in question are asking to be dispensed from these legal formalities on the ground of services rendered to France during the war. Some of them have, in fact, rendered real service to the country; they have been mentioned in despatches, have received decorations, even wounds, but the larger number have simply used the opportunity afforded by the withdrawal of French doctors on mobilisation to obtain situations which they judged better than those available in their own country. French doctors now returning to their own practices see in this foreign invasion a grave personal danger, and on the intervention of a Deputy, M. Georges Bonnefons, the Minister has decided not to grant the exchange of a University diploma into a State diploma, conferring the right to practise, nor the dispensation from the examinations necessary to acquire this diploma, except in very special cases justified by unusual circumstances. Up till now two such authorisations alone have been given.

Medical Demobilisation.

The return of practitioners from active service to take up civilian practice again is slow but sure. The same rule applies to them as to other branches; they are demobilised according to class—that is to say, at the same time as the private soldiers of the same age-group, obtaining with them the same benefit of an advance of a year in age for each child beginning with the fourth. Some who hold appointments near home have asked to be allowed to remain at their present work until the signing of peace. This proposal has only been accepted in the case of a small number, whose presence as special consultants is declared indispensable by their commanding officers; indeed, Parliament has directed the saving of money by every possible reduction in the number of those drawing military pay. Too much may have been sacrificed to this spirit of equality and economy, since even now there is an obvious shortage of doctors for the existing hospitals. There are still many soldiers requiring treatment. The recent epidemic of influenza quickly filled the hospitals still available, those installed in large hotels and educational buildings having already been closed. Numbers of wounded men still need prolonged treatment, others will require physico-therapeutic treatment, massage or electrical treatment, lasting over many months. All who have been discharged on account of wounds and are drawing State pensions have the right to lifelong gratuitous treatment in the military hospitals. Under these circumstances it is plain that doctors have been demobilised too quickly, the services having been refused of many who disinterestedly offered to continue their good offices. The new appeal for volunteers betrays a certain inconsistency in method. Another question which still engrosses the Under Secretary of the Service de Santé is that of the medical service for the region of the Nord, now liberated from enemy occupation. In these regions the inhabitants are returning to ruined villages in which most of the houses are uninhabitable. The unfortunate people cannot be deterred from reoccupying mere ruins where they live under deplorable conditions. Illness due to cold, lack of hygiene, and defective alimentation is of frequent occurrence, and no medical aid is at hand. The practitioners of the districts have either been mobilised and do not intend to return, or have migrated to other places where they have settled down provisionally, and begun to build up practices. To attract doctors anew to the forsaken regions the Ministry has decided that all doctors who take up their pre-war work shall receive a monthly salary of 500 francs for two years, and travelling facilities will be supplied to them in the form of motor-car or cycle. The Under Secretary of State has also given instructions that instruments are to be loaned to doctors who return to their own district.

A French Orthopædic Society.

A French Orthopædic Society has just been founded in Paris with Professor Kirmisson as its president, and Professor Broca and Professor Denucé (Bordeaux) vice-presidents. Elected members alone will have the right of reading papers at the annual October session, due notice being given in advance of the subject-matter. Three topics suggested for discussion in October, 1919, are: (1) prosthesis after amputation; (2) war spondylitis; (3) surgical treatment of pseudarthrosis. The general secretary of the society is Professor Nové-Josserand, of Lyon.

March 15th.

THE FELLOWSHIP OF MEDICINE:

EMERGENCY POST-GRADUATE COURSE.

THE scheme[1] for an emergency post-graduate course of three months for qualified medical officers, now approaching maturity, cannot fail to be of much present and prospective value to teachers as well as students. The executive committee is fortunate in having Professor Sir William Osler as chairman.

The approaching release of the various members of the Medical Services attached to the Canadian, Australian, and American Armies has offered an opportunity for post-graduate study in England which the Directors of those Services have not been slow to realise. There is much clinical material and many schools in London and the provinces. Together they form the material for a teaching faculty which has never yet been properly coördinated and made use of even by the British members of the profession. Medical men from overseas now on military service in Europe are keen in their appreciation of a privilege which in many cases is not likely to be repeated. The Fellowship of Medicine has been quick to formulate a scheme to supply their needs. Members of the staffs of many hospitals in sympathy with the movement have consented to coöperate with the Fellowship. The Royal Society of Medicine has offered hospitality and formed the finest of headquarters. A programme is now being drawn up which will inaugurate a new era in the rather troubled and disappointing history of post-graduate work in London. Facilities have been offered by the directors of the overseas medical services whereby members of their staffs are allowed three months' leave for post-graduate study before demobilisation or return to their home units. Those men will shortly be flocking into London eager to make the utmost use of their furlough. The problem has been how best to conserve their time and energy; how to obviate an unsatisfactory wander from medical school to medical school, inevitably ending in loss of objective, waste of endeavour, and disappointment.

The obvious solution rests in centralisation. The Fellowship of Medicine, in conjunction with many of the medical schools[2] and hospitals of the metropolis, and with the assistance of the Royal Society of Medicine, has arranged a

[1] See THE LANCET, March 8th, p. 400.

[2] St. Mary's Hospital is included in the scheme. It was erroneously omitted from the list of coöperating medical schools supplied to us.

course of daily lectures and demonstrations on general and special subjects to be held five days a week for several months at No. 1, Wimpole-street. The advantage of holding the complete course under one roof is clear. Students attracted by special subjects and individual teaching will naturally complete their course by specialised work under their demonstrators at the respective hospitals. And the scheme of centralisation under such conditions has appealed strongly to men who have little time to lose, and who desire to devote every possible moment of their short leave to the furtherance of their medical education. The number of applications to join the course already received from members of the Canadian, American, and Australian Medical Services is so large as to assure the complete success of the course.

The programme of the lectures and demonstrations is now in an advanced stage of preparation and must be definitely completed within the next few days. Those London faculties which have not yet signified their support of the scheme and a willingness to take their share in the programme should communicate with the secretaries of the Fellowship without delay. The course now being arranged for the benefit of medical men from overseas is likely to form the groundwork of a scheme which is likely to change radically the post-graduate work of the future.

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

City of Manchester.

Dr. James Niven's recently issued annual report for 1917 differs from its predecessors in this particular, that a portion of the usual statistical matter has been suspended. Nevertheless, the omitted tables have been prepared and are available for reference. The ordinary details of natality and mortality in Manchester have already appeared in the Registrar-General's returns, consequently they are not reproduced in the present review, in which only the more important vital statistics are referred to. In some respects local conditions have been favourable to the health of the civil population. A keen outlook has been maintained on the changing circumstances of families, and wages have been adjusted accordingly, from time to time.

It is important to observe that war conditions have led to an enormously reduced consumption of alcohol, and this fact has powerfully tended to the improvement of the public health. The local birth- and death-rates have never been so low as in 1917, and the conspicuous fall in infant mortality experienced in 1916 has been continued in the succeeding year. From all ordinary infectious diseases the death-rate has been comparatively low, whilst the recent upward trend of tuberculous fatality has apparently ceased. On the other hand, the following factors may be regarded as prejudicial to health and general well-being: (*a*) the strain of work has been excessive on considerable sections of the community; (*b*) there has been a noticeable increase of overcrowding; (*c*) a marked deficiency has been experienced in the medical services generally.

The Housing Problem.—An interesting section is that which deals with the problem of housing the labouring classes, who are still clamouring for dwellings within reach of their work. Has this question become more pressing in Lancashire than in other parts of England? If it has, this may be partially accounted for as follows: Ever since the rise of the cotton industry in this country there has been a natural tendency among workers to congregate in the larger towns, and the neighbourhood of Manchester almost immediately became the chief centre for that industry. Consequently, a large number of dwellings were hurriedly constructed for the use of the workers. In the absence of building by-laws these structures were erected according to the caprice of property owners, and without regard either for the health or the convenience of the tenants. In these circumstances serious overcrowding rapidly appeared, both of persons in rooms and of houses on area. In large industrial centres like Manchester the municipal authorities are now confronted with the enormous task of sweeping away huge aggregations of dilapidated property which can never again be made fit for human habitation.

Theirs also is the obligation to provide suitable accommodation for the large number of soldiers returning from the front, who will naturally refuse to be satisfied with dwellings defective in the essentials of health, comfort, and decency. Within the last 30 years or so considerable groups of slum property in Manchester have been cleared away. But recent war conditions have enforced the official declaration that "in the present famine for houses it is impossible to condemn houses unless they are unfit even to shelter the inhabitants."

Owing to an increase of 29,000 in the population since the last Census, a great housing scheme is needed, and a large number of dwellings are imperatively demanded at the present time. It is estimated that after the war 17,000 houses will be required to deal with about 80,000 persons. Three schemes of housing are at present under consideration, under which it is intended to build, in addition to 2600 workmen's cottages, a considerable number of cottage flats, some of which are to be furnished. Moreover, an estate of 50 acres has been acquired in South Manchester, which will eventually contain 700 houses.

Child-Welfare Work.—Under the direction of the infant life preservation committee home visitation has proceeded apace. In 1908 the splendid voluntary work of the Ladies Public Health Society was taken over by the corporation, who now employ 36 health visitors, most of whom are fully certificated nurses. Little change is recorded in the general duties of these officers during the year beyond the fact that the medical officer has handed over to them the investigation of cases of whooping-cough.

With the fall in the birth-rate a reduced number of notified births are referred to the visitors. Effort is made to bring all new births under observation as speedily as possible so that the health visitors may have accurate knowledge of all infants confided to their charge, and also with the hope of encouraging the habit of breast-feeding which is so often discontinued unnecessarily. In this connexion, however, it is satisfactory to learn that approximately 83 per cent. of the infants born in 1917 are known to have been breast-fed when first seen by the visitors.

Close coöperation obtains between health visitors, child-welfare centres, and the babies' hospital in Levenshulme. The health visitors regularly attend the doctors' consultations at the nearest centres. Apart from the instruction thus derived by the visitor there is the additional advantage that a diffident mother may often be persuaded to attend the consultations on being assured that her own health visitor will be present. Through the centres the visitors are in touch with the Manchester Babies' Hospital. Delicate and ailing infants are referred by them to the centres, and, if suitable, are at once passed on to the hospital. Moreover, on the discharge of an infant, it is promptly visited at home by the district health visitor, who is thus able to judge personally of the progress being made.

Towards the end of 1916 the school for mothers began to distribute milk at the chief centres under cost to mothers not able to pay the full price. From November, 1917, the supply of milk under these circumstances passed from the control of the school for mothers to that of the corporation, the financial liabilities being transferred at the same time. The members of the school for mothers, however, still continue their valuable aid by administering the milk-supply scheme.

Two observation nurseries have been established, and have proved effective in dealing with children not thriving. The doctors at the centres recommend cases for admission, and continue to attend them at the regular consultations, giving instructions to the matron and the mothers. The aims of these nurseries are twofold—first, to re-establish the children in good health; and secondly, to teach the mothers how to keep them well, when discharged. The mothers of children requiring massage are taught the necessary technique by the matron, while the mothers learn to appreciate the importance of open-air life with regular sleep and suitable food.

Tuberculosis: Public Health Administration.—At the request of the medical officer of health, Dr. D. P. Sutherland has undertaken the administration of public health tuberculosis work, insurance work, and the work of the care committee—a serious addition to his other duties. In reviewing the past year's work Dr. Sutherland refers to the crippling of clinical activity due to the shortage of medical staff. No extension of the work

is possible, and certain important investigations already commenced have for the present been unavoidably suspended. An effort is now being made by the Government to secure adequate treatment, with hospital provision if necessary, for all tuberculous sailors and soldiers on their discharge from service. Further steps have been taken for the colonisation of discharged men and for their training in agricultural work. This appears, however, to be regarded as a preliminary to a return to the "rough and tumble" of ordinary industry. Until it is recognised that many cases are quite unfit for such return this policy will fail to produce permanently good results on the tuberculosis problem. Attention is desirable to the unsatisfactory position of Manchester as regards the treatment of tuberculous children, and it would appear that one of the first extensions of the present scheme should be in that direction.

Upon notification every case of tuberculosis is seen by a trained visitor. The source of infection is sought for and attempts are made to discover contacts. Printed advice is left with the patient, who, if insured, is instructed how to apply for sanatorium benefit. The family income is in all cases ascertained, and if this is inadequate a grant may be made from the funds of the care committee. The success of this scheme depends upon the completeness with which the tuberculosis officer retains touch with the constantly wandering patients in the area. This constitutes what is termed the "after-care system." The work of the care committee has been carried on in the city for many years. It comprises all efforts for the maintenance of health among tuberculous persons. It involves provision of additional food where a shortage exists, advice in respect of work, and generally the protection of the patient and his family from the results of the disease. The question of finding suitable employment for tuberculous patients is a difficult and complicated one. A number of men in whom disease is arrested have been established in work under the corporation; but Dr. Sutherland sees no way of solving the difficulty until a scheme for widespread colonisation is established. In such a colony provision would have to be made for the varying strength and activities of the workers, for otherwise any training for gardening or light gardening pursuits alone would be attended with disaster.

The Venereal Diseases Scheme.—A Royal Commission was appointed in 1913 to review the position of venereal diseases in relation to the civil population. Their report contained the startling announcement that, in the opinion of the Commission, some 10 per cent. of the populations of our large towns suffer from the results of syphilis, while over 10 per cent. suffer from gonorrhœa or its effects. The Commissioners direct attention to two matters of exceptional urgency in the provision of free treatment to all persons suffering from venereal diseases, and the need for education of the public as to the extent of the evil, and as to the remedies proposed. Among several suggestions of the Commission one requires special mention—viz., that all advertisements of remedies for these diseases should be prohibited by law. This has already been done by the Venereal Disease Act of 1917, which has been applied to Manchester among other localities, and which, in addition, prohibits the treatment of venereal diseases by unqualified persons.

In pursuance of an Order by the Local Government Board, based on the recommendations of the Royal Commission, a scheme was submitted to the City Council in April, 1917, which provided for the establishment of venereal disease clinics in Manchester, and for treatment at the several hospitals of the city. The scheme was adopted by the City Council and sanctioned by the Local Government Board.

County Borough of St. Helens.

Dr. H. J. Cates's annual report for the year 1917 shows that there is still much left to be desired in the sanitary circumstances of this Lancashire town. The general death-rate for the year under review (16·53) was slightly less than that of the preceding year, but still in excess of the rate for the whole of England and Wales. So long as the inhabitants of the borough are permitted to occupy dwellings which are, for one cause or another, injurious to their health, an abnormally high death-rate will prevail in the district. Owing to the war practically no action has been taken under the provisions of the Housing Acts, and property generally is falling into a condition of disrepair. The accommodation at the corporation's isolation hospital, inadequate in non-epidemic periods, was quite insufficient to meet the demand occasioned by the continuance of diphtheria and scarlet fever for the third successive year. The usual biennial outbreak of measles began in the second quarter of 1917 and continued for about 12 months. The disease in the beginning was moderately mild in type, but in the autumn and winter became severe. During 1917 4628 cases of measles came to the knowledge of the health department, every patient notified to the medical officer of health was visited, and home nursing was provided by the corporation in 711 instances. Dr. Cates expresses the view that efficient nursing can undoubtedly prevent the occurrence of complications in measles, and he thinks that there is every reason to believe that the extremely low death-rate of 1·4 per cent. during the epidemic can be attributed in part to the systematic employment of trained nurses in the homes of the patients.

During the year 1917 important progress was made in work connected with maternity and child welfare. Two new centres were opened and a total of 10,247 mothers and infants attended and received advice, while 152 patients were taken into the corporation hospitals. Apparently the value of dried milk is appreciated by the mothers in St. Helens. In 1914 1202 lb. of milk powder were distributed from the corporation depôt, in 1917 the amount had increased to no less than 13,832 lb. The facilities thus provided by the depôt insured the food-supply of a large proportion of artificially-fed infants and young children during the difficult times experienced on account of the war. Dr. Cates summarises the chief needs of the district as follows: the provision of houses for the working-class and the closing and clearance of certain insanitary areas; the provision of adequate hospital accommodation for maternity and infectious diseases; the conversion of the pail-closets and privies now in use; the abolition of the bricked ashplaces and the provision of closed ashbins; the paving of yards. It is to be hoped that, when the times become more normal, the corporation of St. Helens will give effect to Dr. Cates's recommendations.

URBAN VITAL STATISTICS.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1919.

In the accompanying table will be found summarised statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 4·1 per 1000 of the population, estimated at 4,026,901 persons; in the three preceding months the rates had been 4·0, 4·2, and 4·5 per 1000. Among the metropolitan boroughs the lowest rates from these notified diseases were recorded in Kensington, Chelsea, the City of Westminster, Hampstead, Islington, Holborn, and the City of London; and the highest in Fulham, Bethnal Green, Southwark, Bermondsey, Deptford, and Greenwich. The prevalence of scarlet fever was slightly less than in the preceding month; this disease was proportionally most prevalent in Fulham, Bethnal Green, Southwark, Bermondsey, Deptford, and Greenwich. The Metropolitan Asylums Hospitals contained 1075 scarlet fever patients at the end of the month, against 1107, 1087, and 1043 at the end of the three preceding months; the weekly admissions averaged 139, against 146, 136, and 128 in the three preceding months. The prevalence of diphtheria was about 12 per cent. lower than in January; the greatest prevalence of this disease was recorded in Stoke Newington, Hackney, Southwark, Deptford, Greenwich, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1000, 1089, and 1170 at the end of the three preceding months, numbered 1163 at the end of February; the weekly admissions averaged 153, against 129, 146, and 164 in the three preceding months. Enteric fever was somewhat less prevalent than in the preceding month; of the 13 cases notified in February, 3 belonged to Battersea, 2 to Wandsworth, and 2 to Woolwich. There were 18 cases of enteric fever under treatment in the Metropolitan Asylums Hospitals at the end of the month, against 33, 23, and 23 at the end of the three preceding months; the weekly admissions averaged 2, against 3, 1, and 3 in the three preceding months. Erysipelas was proportionally most prevalent in Paddington, St. Marylebone, the City of London, Shoreditch, Bethnal Green, Southwark, and Deptford. Nine cases of puerperal fever were notified during the month; of these 3 belonged to Fulham and 2 to Wandsworth. Of the 16 cases of cerebro-spinal meningitis 3 belonged to Islington and 2 to Lewisham.

The mortality statistics in the table relate to the deaths of civilians belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased had previously resided. During the four weeks ended March 1st the deaths of 8809 London residents were registered, equal to an annual rate of 28·5 per 1000; in the three preceding months the rates had been 42·3, 18·5, and 15·6 per 1000. The death-rates ranged from 22·3 in Bethnal Green, 23·5 in Greenwich, 23·7 in

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING FEBRUARY, 1919.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated civil population, 1917.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.								Deaths from all causes.	Death-rate per 1000 living.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,026,901	—	524	571	—	13	—	9	124	16	—	1257	4·1	—	30	18	51	14	1	56	170	0·6	8809	28·5
West Districts :																								
Paddington	122,507	—	12	21	—	—	—	—	6	—	—	39	4·1	—	3	—	2	—	—	1	6	0·6	302	32·1
Kensington	151,535	—	9	11	—	—	—	—	6	1	—	27	2·3	—	2	—	1	—	—	2	5	0·4	352	30·3
Hammersmith ...	114,962	—	14	13	—	—	—	—	2	—	—	29	3·3	—	5	1	1	—	—	4	11	1·2	299	33·9
Fulham	145,186	—	34	25	—	—	—	3	3	1	—	66	5·9	—	6	2	2	—	—	1	11	1·0	271	24·3
Chelsea	57,368	—	3	8	—	—	—	—	—	—	—	11	2·5	—	2	—	2	1	—	1	6	1·4	141	32·0
City of Westminster	122,046	—	5	12	—	1	—	—	5	1	—	24	2·6	—	—	1	1	1	—	2	5	0·5	304	32·5
North Districts :																								
St. Marylebone ...	92,796	—	13	13	—	1	—	—	5	—	—	32	4·5	—	1	1	3	—	—	4	9	1·3	254	35·7
Hampstead	75,649	—	3	4	—	—	—	—	3	—	—	10	1·7	—	1	—	—	—	—	1	2	0·3	163	28·1
St. Pancras	186,600	—	29	25	—	—	—	1	7	—	—	62	4·3	—	—	1	2	2	—	3	8	0·6	526	36·7
Islington	297,102	—	16	16	—	—	—	—	12	3	—	47	2·1	—	—	1	4	1	—	5	11	0·5	678	29·7
Stoke Newington...	47,426	—	1	14	—	—	—	—	1	1	—	17	4·7	—	—	—	3	1	—	1	5	1·4	104	28·6
Hackney	196,598	—	33	48	—	—	—	—	2	—	—	83	5·5	—	1	—	6	1	—	—	8	0·5	396	26·3
Central Districts :																								
Holborn	35,303	—	3	4	—	—	—	—	—	—	—	7	2·6	—	—	—	—	—	—	—	—	—	126	46·5
Finsbury	68,011	—	8	6	—	—	—	—	—	1	—	15	2·9	—	—	—	—	—	—	1	1	0·2	189	36·2
City of London ...	16,138	—	1	—	—	—	—	—	1	—	—	2	1·6	—	—	—	—	—	—	—	—	—	30	24·2
East Districts :																								
Shoreditch	89,675	—	7	12	—	—	—	—	6	—	—	25	3·6	—	—	1	1	—	—	4	6	0·9	201	29·2
Bethnal Green ...	107,362	—	29	17	—	—	—	—	5	1	—	52	6·3	—	—	—	1	—	—	2	3	0·4	184	22·3
Stepney	232,010	—	35	36	—	—	—	—	5	—	—	76	4·3	—	—	—	4	—	—	3	7	0·4	447	25·1
Poplar	143,443	—	12	14	—	—	—	1	4	1	—	32	2·9	—	—	—	2	—	—	2	4	0·4	325	29·5
South Districts :																								
Southwark	167,936	—	34	46	—	—	—	1	15	1	—	97	7·5	—	1	1	2	2	—	2	8	0·6	384	29·8
Bermondsey	107,635	—	24	22	—	1	—	—	3	—	—	50	6·1	—	—	1	2	—	—	1	4	0·5	237	28·7
Lambeth	272,038	—	45	27	—	1	—	1	3	1	—	78	3·7	—	4	3	1	2	1	6	17	0·8	595	28·5
Battersea	150,023	—	20	15	—	3	—	—	4	—	—	42	3·6	—	3	—	3	—	—	—	6	0·5	341	29·6
Wandsworth	300,787	—	34	18	—	2	—	2	8	1	—	65	2·8	—	—	—	1	—	—	2	3	0·1	561	24·3
Camberwell	239,461	—	31	35	—	1	—	—	6	—	—	73	4·0	—	—	1	1	1	—	4	7	0·4	467	25·4
Deptford	103,527	—	25	26	—	1	—	—	5	—	—	57	7·2	—	—	1	4	—	—	—	5	0·6	226	28·5
Greenwich	90,440	—	18	27	—	—	—	—	2	—	—	47	6·8	—	1	1	1	—	—	1	4	0·6	163	23·5
Lewisham	161,405	—	14	23	—	—	—	—	3	2	—	42	3·4	—	—	1	1	1	—	1	4	0·3	294	23·7
Woolwich...	131,942	—	12	33	—	2	—	—	2	1	—	50	4·9	—	—	1	—	1	—	2	4	0·4	249	24·6
Port of London ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

Lewisham, 24·2 in the City of London, 24·3, in Fulham, and 24·3 in Wandsworth, to 32·5 in the City of Westminster, 33·9 in Hammersmith, 35·7 in St. Marylebone, 36·2 in Finsbury, 36·7 in St. Pancras, and 46·5 in Holborn. The 8809 deaths from all causes included 170 which were referred to the principal infectious diseases; of these, 30 resulted from measles, 18 from scarlet fever, 51 from diphtheria, 14 from whooping-cough, 1 from enteric fever, and 56 from diarrhœa and enteritis among children under 2 years of age. No death from any of these diseases was recorded during the month in Holborn and the City of London. Among the metropolitan boroughs the lowest death rates from these diseases were recorded in Hampstead, Finsbury, Wandsworth, and Lewisham; and the highest death-rates in Hammersmith, Fulham, Chelsea, St. Marylebone, Stoke Newington, and Shoreditch. The 30 deaths from measles were less than a fifth of the average number in the corresponding period of the five preceding years, and included 6 in Fulham, 5 in Hammersmith, 4 in Lambeth, 3 in Paddington, and 3 in Battersea. The 18 fatal cases of scarlet fever were equal to the average number; of these, 3 belonged to Lambeth and 2 to Fulham. The 51 deaths from diphtheria were 10 below the average; this disease was proportionally most prevalent in Chelsea, St. Marylebone, Stoke Newington, Hackney, and Deptford. The 14 fatal cases of whooping-cough were about a ninth of the average number; of these, 2 belonged to St. Pancras, 2 to Southwark, and 2 to Lambeth. One death from enteric fever was registered during the month, against an average of 9 in the corresponding period of the five preceding years. The 56 deaths from diarrhœa and enteritis among children under 2 years of age were 13 less than the average; of these, 6 belonged to Lambeth, 5 to Islington, 4 to Hammersmith, 4 to St. Marylebone, 4 to Shoreditch, and 4 to Camberwell. In conclusion, it may be stated that the aggregate mortality from these principal infectious diseases in London during February was 62 per cent. below the average.

(Week ended March 15th, 1919.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at 16,500,000 persons, the annual rate of mortality, which had been 35·7 and 31·9 in the two preceding weeks, further declined to 26·4 per 1000. In London, with a population slightly exceeding 4,000,000 persons, the annual death-rate was 21·4, or 5·2 per 1000 below that recorded for the previous week; among the remaining towns the rates ranged from 8·1 in Eastbourne, 10·7 in Acton, and 12·7 in Tynemouth, to 44·8 in Smethwick, 45·5 in Middlesbrough, 49·4 in Stoke-on-Trent, 53·3 in Bury, and 55·5 in Barnsley. The principal epidemic diseases caused 186 deaths, which corresponded to an annual rate of 0·6 per 1000, and included 64 from measles, 41 from whooping-cough, 38 from diphtheria, 29 from infantile diarrhœa, 9 from scarlet fever, 4 from enteric fever, and 1 from small-pox. Measles caused a death-rate of 1·3 in Sheffield, 1·4 in Ilford, 1·5 in Southend-on-Sea, 4·8 in Middlesbrough, and 5·6 in Rotherham; and whooping-cough of 1·9 in Stoke-on-Trent. The fatal case of small-pox belonged to the metropolitan borough of St. Pancras. The deaths attributed to influenza, which had been 3054, 3889, and 3218 in the three preceding weeks, further fell to 2320, and included 435 in London, 157 in Birmingham, 117 in Manchester, 93 in Liverpool, 71 in Leeds, and 67 in Salford. There were 5 cases of small-pox, 1020 of scarlet fever, and 1153 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, against 5, 1062, and 1182 at the end of the previous week. The causes of 56 deaths in the 96 towns were uncertified, of which 16 were registered in Birmingham, 5 in Gateshead, 4 in Liverpool, and 3 each in Stoke-on-Trent and Blackpool.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2,500,000 persons, the annual rate of mortality, which had been 40·0 and 34·5 in the two preceding weeks, further declined to 28·1 per 1000. The deaths from influenza numbered 39, while in 257 deaths classified as due to other conditions influenza was a contributory cause; in the previous week these numbers were 62 and 450 respectively. The 701 deaths in Glasgow corresponded to an annual rate of 32·7 per 1000, and included 35 from whooping-cough, 12 from measles, 4 from infantile diarrhœa, 3 from diphtheria, and 2 from enteric fever. The 152 deaths in Edinburgh were equal to a rate of 23·6 per 1000, and included 10 from whooping-cough, 4 from diphtheria, and 1 from infantile diarrhœa.

Irish Towns.—The 371 deaths in Dublin corresponded to an annual rate of 47·8, or 15·2 per 1000 below that recorded in the previous week, and included 104 from influenza, 3 from scarlet fever, 2 from measles, and 1 each from diphtheria and infantile diarrhœa. The 261 deaths in Belfast were equal to a rate of 33·9 per 1000, and included 2 from infantile diarrhœa and 1 from diphtheria.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

At a meeting held at the West London Hospital on March 7th, with Lieutenant-Colonel E. M. Wilson, C.B., C.M.G., in the chair, the West London triennial medal was presented to Surgeon-Commander Francis Bolster, R.N., for heroism during the battle of Jutland.—Dr. F. G. Crookshank read a paper entitled "The Importance of Symptoms," the author stating that although during the last 30 years almost incredible advances in surgery had been achieved, and in tropical medicine vast new tracts had been explored, in ordinary medical practice progress had been but slight. The tendency had been to discard symptoms as guides to diagnosis and treatment, and to place reliance instead on mechanical, chemical, and biological tests. But since what we call particular diseases are in reality mental concepts of special symptoms, linked or correlated by ideas of particular kinds of causes, known or postulated, the study of symptoms should take precedence over investigation of the secondary organic changes and even of the special causal agents. Social reformers recognised this better than doctors; for they directed campaigns, not against organisms as the cause of the malady, but against the circumstances which favoured the disorderly reaction.—A discussion followed.

Correspondence.

"Audi alteram partem."

THE LOWER UTERINE SEGMENT AND UTERINE TENDONS.

To the Editor of THE LANCET.

SIR,—In his paper on the above subject in THE LANCET of March 8th Professor Hastings Tweedy states: "Gynæcologists are, or should now be, agreed that the uterus owes its stability to its connexion with the fibromuscular bands which surround the cervix at the level of the os internum and radiate in all directions to their attachments in the pelvis." Professor Tweedy calls these structures the "uterine tendons"; believes they support the uterus; that they keep the uterus in equilibrium, and "take up all abdominal strain"; and that "the cervix lying beneath them is thus freed from pressure." Professor Tweedy states that these structures behave "as tendons do in other parts of the body"—whence the name he gives. On *a priori* grounds this is unacceptable; for they have not the same structure as tendons. At this time of day we are not going to believe that tissues of a different structure, and, indeed, of a different order, behave similarly. Without questioning their continued existence during pregnancy, which there is reason to doubt, he refers to them in connexion with the formation of the lower uterine segment in that condition. And he makes some statements, which, I think, show the invalidity of his position. The following argument may be constructed from them: 1. The tendons of the uterus are inserted into the organ at the junction of the cervix and body of the uterus, and "constitute the one and only division between ....." these two parts. 2. "When pregnancy occurs the internal os opens and the ovum finds room for its increasing growth in the upper region of the cervix immediately beneath the uterine tendons." 3. "The opening of the os permits a slackening of the fibrous diaphragm"—which is made up in part by these tendons. 4. Therefore, with the occurrence of pregnancy, the cervix sinks in the pelvis—a conclusion which is not in harmony with fact.

Further, like many writers with a similar point of view, Professor Tweedy, in discussing the statics of the non-pregnant uterus, ignores the rôle of adjacent parts. He takes no note of the bladder, which—it is known—with its variation in volume, influences the position of the uterus (both of body and of cervix). Nor does he refer to what keeps the bladder in place. The idea that the "tendons of the uterus" do this and that they take up all abdominal strain is untenable in the presence of the results of panhysterectomies as done for carcinoma, and is shown to be untrue by the manometer. When the patient coughs, a great rise of pressure in the vagina is found to occur. This would not happen if the "tendons of the uterus" sufficed to resist the visceral downthrust. And after Wertheim's operation the tendons of the uterus do not exist, yet the visceral downthrust is met. Such considerations show at once that the cervix does not normally "escape pressure" by lying beneath a portion of the uterine tendons, as Professor Tweedy avers.

Another statement in this paper calls for comment. The author states that "in procidentia uteri"—I suppose he means by that partial prolapse of the uterus, the cervix being outside whilst the body of the uterus is within the pelvis—an hypertrophy of the supravaginal portion of the cervix occurs. "In spite of its greater length, its diameter," he says, "does not diminish, which clearly shows that the process is one of hypertrophy." In your annotation on the paper you, Sir, do not accept this statement, and I think the large majority of gynæcologists will agree with you. The thinness of the part referred to as felt on examination, and the very great rapidity with which a shortening of the organ occurs on replacing the prolapse, show that the statement is not true. The change is not an hypertrophic change, but with the elongation of the uterus there is a corresponding diminution in sectional cross area.

It is commonly believed that this elongation is due to stretching, and your annotation refers to it as such. It is thought that some force keeps the body of the fundus of the uterus in place within the pelvis, whilst some other force drags the cervix down (e.g., gravity). I submit that the weight of the cervix, when we come actually to estimate it, cannot possibly be supposed to cause this elongation; and, what other force can be in operation? The real explanation, I am sure, is that the part of the cervix (or it may be of the body of the uterus) at the aperture of exit from the pelvis is constricted—just like the rectum and vagina at this place in the normal, and just like the part of the bladder similarly situated in cystocele, causing an hour-glass shape of that organ. With this constriction (which prevents the advance of the prolapse) the fundus and cervix are naturally caused to recede from the place of constriction and so from each other, whereby the organ becomes longer.

I am, Sir, yours faithfully,

Rugby, March 14th, 1919. R. H. PARAMORE.

EPISTAXIS AND HÆMOPTYSIS IN INFLUENZA.

To the Editor of THE LANCET.

SIR,—I would like to draw the attention of your readers to the value of pituitrin and infundin in epistaxis and hæmoptysis, so common in the present epidemic of influenza. Using 0·5 c.cm. of one or other preparation hypodermically, it has been unnecessary to resort to any local treatment other than cold sponging of head and neck. Generally the hæmorrhage stops almost immediately, and is followed in some hours by another and very slight attack, which, in my cases, has not been repeated. The use of pituitrin in these cases has given the patient a feeling of well-being which suggests to me that a previous internal secretory exhaustion had been present. It would be interesting to know if your readers have had similar experiences.

I am, Sir, yours faithfullly,

W. P. KELLY, F.R.C.S.Irel.

Arklow, Co. Wicklow, March 12th, 1919.

THE EPIDEMIC OF SEPTIC PNEUMONIA.

To the Editor of THE LANCET.

SIR,—In the various reports of septic pneumonia cases which have appeared in THE LANCET I have not seen any allusion to a peculiar ashen grey sputum observed in the following cases, the notes of which may, therefore, be worthy of record:—

CASE 1.—Seen by me in consultation on Feb. 14th, a female, aged 25, with history of five days' illness, which came on gradually with symptoms of gastro-intestinal disturbance, vomiting, slight diarrhœa, &c. Typhoid was suspected. Temperature 103·5° F. (had been 105°), respirations 45, pulse 130. There was consolidation with bronchial breathing over the whole of the left lung. *The sputum was an ashen grey colour* resembling a thick mixture of cigar ash; the tongue and lips were dry and coated; the patient was listless and indifferent, but fully conscious, and answered questions intelligently and concisely. She died on the following day.

CASE 2.—Seen by me in consultation on Feb. 18th and on three subsequent occasions, a man, aged 29, with consolidation over the left base, hurried breathing, &c. This patient was also markedly listless, with dry and coated lips and tongue, and a similar *ashen grey sputum* as described in Case 1 was observed. This case appeared to improve greatly under injections of mixed vaccine, but subsequently symptoms of apical pneumonia developed, and he died on March 4th.

I am, Sir, yours faithfully,

Welbeck-street, W., March 17th, 1919. JAMES SEARSON.

Dr. Saint René Bonnet, M.D. Paris, M.R.C.S. Eng., who is now discharged from military duties, has resumed his practice as consulting physician at Chatel-Guyon-les-Bains, Auvergne, France.

Mr. Muirhead Bone, who has been an official artist since August, 1916, and whose war drawings we have often taken occasion to praise in these columns, proposes to set aside the proceeds from the sale of his signed lithographs in order to purchase the work of other artists for presentation to the Imperial War Museum, where his own work will be preserved. The sum thus generously given away amounts to about £2000.

CHARING CROSS HOSPITAL MEDICAL SCHOOL: POST-GRADUATE STUDY.—The special course, commencing on April 7th, will include lectures and demonstrations of general and special medical and surgical subjects, bacteriology, and radiology. Affiliation with the Royal Westminster Ophthalmic Hospital having been completed, the ophthalmic clinic there is now open to students. Further details in our advertisement columns.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Ministry of Health Bill.

THE Standing Committee of the House of Commons has now made considerable progress in the consideration of the Ministry of Health Bill.

The Committee began consideration of the Bill on Thursday, March 13th, Sir A. WILLIAMSON being in the chair.

Clause 1, which deals with the establishment of a Minister of Health, was agreed to.

Clause 2 provides that it shall be the duty of the Minister to take all such steps as may be desirable to secure the effective carrying out and coördination of measures conducive to the health of the people, including measures for the prevention and cure of diseases, the treatment of physical and mental defects, the collection and preparation of information and statistics relating thereto, and the training of persons engaged in health services.

Powers of Minister of Health.

Major MCMICKING moved an amendment designed to limit the powers of the Minister of Health to the powers transferred to the Minister. He said that they had to remember that Governments came and went, and they had to provide against any chance of future Ministers exercising new powers under this Bill which were not covered by the existing law.

Major J. W. HILLS said that what he was apprehensive of was that under this clause the Minister would get power to enforce treatment or to make regulations for which otherwise he would have to get Parliamentary powers. He instanced as an example the well-known regulation, 40 D.

Major ASTOR (Parliamentary Secretary to the Local Government Board) said that people had read Clause 2 and nterpreted it in different ways. Some hoped it would give the Minister new powers to do all sorts of new things, while others feared that it might give the Minister those powers. In view of the fact that there was some doubt about the meaning of the clause as now drafted, he wished to explain that there was no intention whatever on the part of the President of the Local Government Board to give or take, or to try to give or take any new powers. The clause was governed by the word coördination. The intention of the Government was to transfer to one Department under one Minister the existing powers relating to health matters. The language of the clause simply suggested, without pretending to give any detailed list of, the powers it was proposed to transfer to the Minister of Health. But it would be his duty to take an interest in other matters concerning health the control of which would not necessarily be transferred to him, as, for example, medical education. It should also be borne in mind that Parliament in the past had given certain powers to local authorities, and all the Local Government Board did was to supervise the exercise of those powers. The idea of this Bill was not a centralised bureaucracy, but rather decentralisation of local administration. If the honourable Member would withdraw his amendment he would move a form of words which would convey what he had in his mind. This form was as follows: After the word Minister insert "in the exercise of any powers and duties transferred to him by or in pursuance of this Act."

Major MCMICKING withdrew his amendment, and the amendment suggested by Major Astor was agreed to.

Notification of Venereal Disease.

Mr. STEWART moved an amendment to include the notification of venereal disease among the powers conferred on the Minister of Health. They had seen the lamentable results as regards the nation's physique as shown by the medical examination of recruits for the Army, and he thought it was a mistake when they had an opportunity as they had in this Bill if they did not attack the enemy of venereal disease in front and do great good to coming generations. It was too important a matter to be interfered with by any feelings of false modesty.

Dr. ADDISON (President of the Local Government Board) pointed out that his department already had powers to make venereal disease notifiable, but as a matter of fact the problem at the present time was to provide a sufficient number of early treatment centres. The governing consideration was to provide such facilities for treatment that the patients would readily go and make use of it. He was afraid that there was overwhelming evidence that compulsory notification might keep large numbers from taking advantage of these early treatment centres, which were the very things they wanted to encourage. He hoped therefore that the amendment would not be pressed. There were now about 140 treatment centres throughout the country.

Mr. STEWART said that, while he was unconvinced by Dr. Addison's speech, he would withdraw the amendment.

Health Propaganda: Voluntary Hospitals: Subsidy of Labour of Consumptives.

Captain BARNETT moved an amendment to make explicit the right and duty of the Minister of Health to run health propaganda.

Major ASTOR said that, while in sympathy with the intention of the amendment, he thought it would be out of place in this clause.

Dr. ADDISON said that steps had been taken within the last month to assist propaganda in connexion with venereal disease. Within the last two months they had contributed £8000 towards propaganda of a sensible and practical kind in regard to that and allied matters.

The amendment was withdrawn.

The CHAIRMAN ruled out of order an amendment standing in the name of Mr. Swan, Mr. Sitch, and Mr. Thomas, which related to the establishment of national hospitals and other institutions for the treatment of the sick and disabled, and the nationalisation of existing institutions dependent upon voluntary contributions for their maintenance. Clause 2, he said, did not seek to confer new powers, as this amendment did, and the proper method would be to put down a new clause.

Major FARQUHARSON moved an amendment to include "scientific investigation" among the duties imposed upon the Ministry of Health.

It was urged that this subject had better be discussed in connexion with the question of medical research, which would arise later, and on this understanding the amendment was withdrawn.

Mr. GODFREY LOCKER-LAMPSON had an amendment on the paper to include the subsidy of the labour of consumptives within the powers of the Ministry of Health.

The CHAIRMAN ruled it out of order, as it ought really to be the subject of a new clause.

Major ASTOR pointed out that if the subsidy was a part of treatment the Government could deal with it already. If, however, it involved new powers beyond that it was out of order. This matter was one which the Government had very much at heart, and the President of the Local Government Board had set up one committee and was setting up another to look into the different aspects of this important matter. He hoped the amendment would be withdrawn, since the Government fully realised that more had got to be done both as regards civilians and ex-soldiers. It was particularly the latter for whom the new committee had been set up.

The amendment was withdrawn.

Training for Health Services.

Sir P. MAGNUS moved to leave out the words "and the training of persons engaged in health services." It certainly did not need a clause of this kind to give power to the Minister to take an interest in the training of persons engaged in health services. But as the clause now stood it might be interpreted as giving the Minister power to interfere with the courses of instruction in the medical schools attached to hospitals as well as those attached to universities. He did not think that was the intention of the Government, therefore these words ought to be omitted.

Major ASTOR said there was no intention implied or expressed to transfer the functions of the General Medical Council or any of the functions of the President of the Board of Education in connexion with the grants to universities and schools. The wording of the clause merely showed that when the Ministry was set up it was hoped that it would keep in touch with the other bodies that were dealing with these matters. He did not think that there was anything endangering the training of the medical profession in the clause as now drafted.

The amendment was withdrawn.

Major ASTOR moved to leave out the words "engaged in" and to insert the word "for," making it read "and the training of persons for health services."

Major FARQUHARSON opposed the alteration, which, he said, opened up all sorts of possibilities, which he was certain would lead to great conflict in the future.

Sir KINGSLEY WOOD said he hoped that honourable Members would not press opposition to this very simple amendment, which was obviously a desirable one, and which he was positive was in the interests of all people who were interested in the Bill.

The amendment was agreed to.

Conscientious Objections.

Major HILLS moved at the end to add the words "provided nothing in this section shall compel any person to receive treatment who makes a statutory declaration that upon conscientious grounds he objects to medical treatment." He said that he thought it would be a great disaster if an Act of this sort, which he most cordially supported, were to break down upon a question of this kind. If persons did not want

to undergo any special form of treatment no Act of Parliament would make them do so. In his judgment there were no measures more clearly justified on medical and on social grounds than the Vaccination Acts. Yet before concientious objection was allowed they had local authorities refusing to enforce the Acts and local authorities returned on the sole issue as to whether the Act should be enforced or not, and they got a narrower ambit of the Acts because of it. They would be doing a very beneficial thing if from the start they said to the people who for some reasons, medical or religious, sincerely objected to treatment, "the State will not compel you."

Dr. ADDISON said it was quite obvious that they could not force treatment on people which they did not wish to accept, and he would be the last person in the world to try to do so. But that was quite a different thing from putting a proviso of this kind in the Act. For instance, the community had said for its own protection that people suffering from certain infectious diseases must be isolated. He was advised that if this amendment were accepted it would cut right across the powers which already existed in respect to infectious fevers. He was quite sure his honourable friend did not want to do that any more than he did. The Government had no power now to force treatment on unwilling persons, and they were given no fresh powers under this clause.

Sir A. WARREN said that he was not in favour of allowing persons suffering from infectious disease to run amok or go about at their own sweet will, but there were a large number of persons who had conscientious scruples to the enforcement of particular kinds of treatment. Might he say, with great respect as a layman, that such people think that they have just as efficacious means of treatment as a bottle of doctor's medicine.

Colonel WEIGALL said that although a number of persons had these conscientious objections he felt that unless they had some powers of compulsion they would produce a state of chaos.

Sir COURTNEY WARNER thought that the amendment would be a great blot upon the Bill, and would tend to a weakening of its powers.

On a division the amendment was rejected by 33 votes to 14.

Clause 2 as amended was then passed.

Transfer of Powers and Duties.

Clause 3 deals with the transfer of powers and duties to and from the Minister.

Mr. LESLIE SCOTT moved to add the transfer of "all the powers and duties of the Secretary of State under the Lunacy Acts, 1890 to 1911, and the Mental Deficiency Act, 1913." No difficulty, he said, would stand in the way of this transfer, and the only chance of getting these Acts linked up with the general medical service of the country was through such a transfer as he advocated.

Major ASTOR said he did not think that it would be in accordance with the intentions of Parliament that all the powers should be transferred, because some of them affected the liberty of the subject, and these were placed under the Lord Chancellor or the Home Office.

The amendment was withdrawn.

Sir A. WARREN moved as an addition to the proviso that all the powers and duties of the Local Government Board should be transferred the following: "except as relating to the administration of the Poor-law, which administration shall be transferred to the Home Office."

Sir KINGSLEY WOOD said that the amendment, if accepted, would mean that all the persons working under the present system would be taken away from the administration of relief. If they desired to disentangle the medical side of the Poor-law it would take considerable time. They must either postpone the Ministry of Health until the medical side of the Poor-law was disentangled or they must take over the Poor-law.

After some discussion the amendment was withdrawn.

Medical Research.

Sir P. MAGNUS moved that in addition to taking over all the powers and duties of the Insurance Commissioners and the Welsh Insurance Commissioners the clause should include "the duties hitherto performed by the Medical Research Committee." Medical research in the future would, he said, depend largely on the result of discoveries made by research committees; and research and methods of research must form an important part of medical education wherever it might be carried on, either in universities or elsewhere. He need only refer to the discovery of radium in France, and of the Roentgen rays in Germany, which had had such an important influence on medical practice. It was very difficult to distinguish between researches carried on for the purposes of pure science and those which might happen to be applicable to medical science or medical education. For that reason it seemed to him most desirable that the Ministry of Health should have under its own control and direction a research department to which it could refer problems as they arose. He saw no valid reason why the Research Department should not be at once affiliated to the new Ministry.

Sir KINGSLEY WOOD pointed out that they were dealing with a Bill that applied to England and Wales alone. As the President of the Local Government Board had stated in the House of Commons, medical research was not a matter of geographical limits, and he thought all of them were hoping that medical research in the future would not be limited to this country alone, but might prove to be a truly Imperial department. If that were so the proper department which should supervise it, at any rate at the present time, was the department named in the Bill—namely, the Privy Council.

Major HILLS urged that men of science should be entirely free and independent to carry on research in their own way. Research could only take place by conflict with existing institutions. The one administration with which the Research Department would be in conflict if progress was to be made was the Ministry of Health. The Medical Research Committee under the Privy Council had done some extraordinarily good work, and he submitted that it would be a step backwards if that work were taken away from them.

Lieutenant-Colonel RAW strongly urged that the Research Committee should be brought under the control of the Ministry of Health. The Bill would not be complete if the Ministry had not at its immediate disposal the very best advisory research committee. In the event of a great epidemic the Ministry ought to be able to ask its own Research Committee to investigate the disease instantly. They could not do that if the Research Committee remained outside the Ministry.

National and Imperial Medical Research.

Major FARQUHARSON thought that they might hope that the Medical Research Committee would have a very much wider and more effective scientific horizon if it were placed within the jurisdiction of the Privy Council than if it were attached to the Ministry of Health. He was perfectly certain that the medical men—of a committee of whom he had the honour to be secretary—did not wish to press for the inclusion of the Medical Research Committee within the Department of the Ministry of Health, but they did press for some real live thing which within the walls of the Ministry might take the place of the Research Committee. He urged the Government to insert in as simple language as they pleased such words as would effect that compromise, which he thought would completely meet the view of the medical men.

Sir WILLIAM WHITLA also believed that under the Privy Council medical research would have a wider scope than under the Ministry of Health. He advocated that by way of compromise the Ministry should have its own research department. There could not possibly be too much competition in original research. He was not clear whether the Minister of Health could get large grants-in-aid for the purpose of setting up a research department, but if he could he thought the Committee should not hesitate for a moment to start on the project of two departments of research, one under the Privy Council and one under the Ministry of Health.

Sir KINGSLEY WOOD pointed out that the Local Government Board already had its research work and this would be transferred under the Bill.

After further discussion,

Major ASTOR said it was a fallacy to imagine because in the illustrative words in Clause 2 the word "research" was not specifically included that therefore it was excluded. The Minister of Health, like the President of the Local Government Board, would be able to do his research in his own laboratories. He had that power now. The money that was going to be devoted to research in the future was going to be a special vote. They wanted the Ministry of Health to go on with its own research in all parts of the kingdom, but over and above that they wanted the Research Committee, which was international and inter-departmental, to continue. There would be Ministerial responsibility, but let them not break up the Medical Research Committee, which dealt not only with England and Wales but with the whole of the United Kingdom and the whole Empire. He thought that Major Farquharson had made a very fair suggestion, and he would put it to the President that on the Report stage they should insert the following words: "the initiation and direction of research."

Sir P. MAGNUS, on this understanding, withdrew his amendment, and also a further one which provided for "the medical inspection and treatment of children and young persons."

The School Medical Services.

On Tuesday, March 18th, the Standing Committee of the House of Commons further considered the Ministry of Health Bill. Sir ARCHIBALD WILLIAMSON was in the chair.

Mr. G. LOCKER-LAMPSON moved an amendment to Clause 3 to transfer to the Ministry of Health "all the powers and duties of the Board of Education with respect

to the medical inspection and treatment of children and young persons."

Mr. FISHER (President of the Board of Education) resisted the amendment. The Board of Education were anxious to cooperate with the new Ministry of Health, but it would be difficult and inadvisable to cut out School Medical Services from the Board of Education. The administration of the health services was an integral part of school life and part of the functions of the local Education Committees.

Sir P. MAGNUS said that the arguments of the President of the Board of Education went to the very root of the Bill, whose object was to take over all the various health services from the different departments of State so as to consolidate them and prevent overlapping. So far as gymnastics were concerned, he saw no reason why they should not remain in the hands of the Board of Education, because they did not require the skill of the Ministry of Health to deal with. If these educational health services were not transferred they would have medical men and nurses under the Board of Education overlapping with those under the Ministry of Health.

Sir RYLAND ADKINS said there were perfectly genuine arguments on both sides of this question. It would be quite impossible to separate public health considerations from education. But on the whole he asked the Government and the Committee to arrange for the transfer of these powers to the Ministry of Health at once.

Dr. ADDISON (President of the Local Government Board) said that the functions that were to be transferred under the Bill were divided into two categories, viz. (1) those which were to be transferred forthwith, and (2) those which it would be lawful to transfer hereafter. As an administrative proposition it would be a great mistake to thrust upon the Minister of Health right away all these duties because he would become overloaded and the administrative machine might tend to break down. The next step was to formulate a general health policy, the establishment of clinics, laboratories, midwifery, &c., and this would be a gigantic task and one that was quite sufficient to put upon the shoulders of the Minister at first, and he asked the Committee not to burden him with having to discharge these functions as well. As regarded physical training, he thought it was impossible administratively to divorce it from inspection.

Sir E. JONES said that he thought that the control of the medical men in the various localities, and probably some of the clinics already set up by the Education Committees, could eventually be put under the Ministry of Health. They must leave the Minister time to work these things out into a coördinated system and not plunge headlong into a proposal of this kind, which would produce difficulties in every school and undo much of the good work that had been done.

Sir WATSON CHEYNE said that he was much disappointed by the speech of the President of the Board of Education. He confessed that he could not see what difficulty there was in transferring these powers to the Ministry of Health. He had had a good deal of experience of schoolmasters, and he was not sure that he would trust them to be the judge as to what sort of physical exercise was good for a boy. What they ought to aim at was the best system, and if it did upset the local authorities he was afraid they must make up their minds to it.

Amendment Carried.

Mr. FISHER said he hoped to make a proposal which would mitigate some of the bitter feelings which had been raised by his first speech. The School Medical Service had been a most successful part of the administration of his department. The Committee ought to think before they interfered with a department which was doing magnificent work, which had secured the confidence of the local authorities. Under the Education Act, 1918, special stress was laid upon the physical side of education. They were therefore particularly interested not to interfere with the excellent work which was being done and which was to get fresh encouragement from the new Education Act. He proposed to the Committee that words should be inserted to make it possible to transfer these powers by an Order in Council.

There were cries of dissent from all parts of the Committee room at Mr. FISHER's proposal.

Major BARNSTON said that it should be realised that this was not a matter of detail, but one of principle.

Captain BARNETT said that to bring forward half baked legislation of this kind which had not received proper consideration from the Government amounted, in his opinion, to an abdication of the rights and duties of the House of Commons.

Dr. ADDISON said there was no desire to put before Parliament a Bill that was a sham. But the reason for the Bill appearing in its present form was that it was considered to be the most practical and businesslike proposal. If the amendment were carried it would not be practicable for the Minister to set up and propose to Parliament that general extension of the health services of the country, and at the same time to assume all these other duties. He would suggest that Mr. Fisher's proposal was a reasonable one ("No, no"). If the amendment were carried he would suggest that the Minister should be able to review the question between now and the report stage so as to see whether it would work administratively, and, if necessary, insert words on report to meet the difficulties which he was afraid the amendment would involve.

The amendment was carried without a division.

Medical Supervision of Factories and Workshops.

Sir P. MAGNUS moved an amendment to transfer the powers and duties of the Home Office relative to public health, including the sanitary condition of factories and the investigation and prevention of industrial diseases to the Ministry of Health.

Dr. ADDISON resisted the amendment and said that the question of industrial conditions should come under the Ministry of Employment as the Ministry of Labour would ultimately become. These matters involved controversies which were inseparable from industrial administration.

The amendment was withdrawn.

Clause 3 was still under consideration when the Committee adjourned till Thursday.

Nurses' Registration Bill.

Captain BARNETT has introduced in the House of Commons a Bill "to provide for the State registration of nurses." It has been read a first time.

The Housing Bill.

Dr. ADDISON (President of the Local Government Board), on Tuesday, March 18th, presented a Bill to amend the enactments relating to the housing of the working classes, town planning, and the acquisition of small dwellings. It has been read a first time.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 12TH.

Vaccination.

Mr. WATERSON asked the President of the Local Government Board whether he was aware that there was a growing opinion that, in consequence of altered social conditions and improved sanitary administration, it was not now necessary to enforce vaccination; and whether he would consider the advisability of introducing legislation with a view to the repeal of the compulsory clauses of the Vaccination Acts.—Major ASTOR (Parliamentary Secretary to the Local Government Board) replied: I have no information to show that public opinion has changed. My right honourable friend is not contemplating legislation.

Mr. LUNN asked the President of the Local Government Board, in view of the tendency of modern methods of vaccination to produce only faint scars or marks, what value the Government now attached to scars or marks as an evidence of efficient vaccination.—Major ASTOR replied: Efficient vaccination of children by modern methods produces scars or marks which have a definite and characteristic appearance and are readily recognisable. In modern practice the appearance, number, and area of marks or scars furnish evidence of the degree of protection afforded by vaccination.

Small-pox.

Mr. TYSON WILSON asked the President of the Local Government Board how many cases of and deaths from small-pox occurred in England and Wales during the year 1918; how many of the cases and deaths were under 10 years of age; and how many of the cases and deaths, under 10 and over 10 years of age, were vaccinated and unvaccinated, respectively.—Major ASTOR answered: In 1918 there were in England and Wales 53 cases of small-pox and two deaths, in both of which, however, the diagnosis was open to some doubt. There were 12 cases under 10 years of age. The two fatal cases were over 10. Of the total cases under 10 one was vaccinated and 11 unvaccinated. Of the total cases over 10, 33 were vaccinated and 8 unvaccinated. In addition to the 53 cases there were 13 cases imported in ships.

THURSDAY, MARCH 13TH.

Lymph for Public Vaccination.

Mr. FREDERICK GREEN asked the President of the Local Government Board whether the Government were prepared to guarantee that the lymph issued by them for public vaccination purposes would not produce unintended complications; and, in the event of such complications arising, would they consider the advisability of giving compensation to the sufferers.—Mr. PRATT (for Dr. ADDISON) replied: The lymph issued from the Government lymph establishment to public vaccinators is prepared by methods which prevent it from being contaminated by septic organisms. In the relatively rare cases where vaccination is complicated by the occurrence of septic conditions the complications usually result from accidental infection of the vaccinated surface

and are not attributable to the lymph. I cannot accept the principle that compensation should be paid by the Government in cases where complications arise after vaccination.

Salvarsan Substitutes.

Mr. FREDERICK GREEN asked the President of the Local Government Board if he would state what guarantee the Government had that the remedies approved by them as substitutes for salvarsan were exactly similar, or even approximately similar, to the remedy as discovered and patented by Ehrlich.—Mr. PRATT (for Dr. ADDISON) answered: All the approved substitutes, except galyl, are manufactured under licences issued by the Board of Trade for the express purpose of allowing the manufacturers to employ the processes which are used in the manufacture of the original salvarsan, and which are protected by patents. The presumption is therefore that the drugs produced by these manufacturers are similar to the original article. For the protection of the public all the approved substitutes are tested on behalf of the Medical Research Committee before being placed on sale. I understand that the Salvarsan Committee appointed by the Medical Research Committee have already considered the question, and that they will shortly issue a report in regard to it.

Mr. ROBERT YOUNG asked the President of the Local Government Board whether he would consider the advisability of appointing a committee of experts to investigate the whole question of the supposed value of salvarsan as a cure for syphilis, seeing that it had been stated by eminent authorities on the use of salvarsan and its substitutes that deaths had taken place through its use.—Mr. PRATT (for Dr. ADDISON) replied: A special committee was appointed in 1918 by the Medical Research Committee to consider the matters referred to in the question. It comprises representatives of the Medical Departments of the Admiralty and War Office, of the Medical Research Committee, and of the Local Government Board. Its constitution and terms of reference are set out in the Board's V.D. Circular 22. With that circular the Board, at the request of the Medical Research Committee, circulated copies of a memorandum prepared by the Salvarsan Committee, in which a definite opinion as to the value of salvarsan was expressed. I am forwarding to the honourable Member copies of these documents.

TUESDAY, MARCH 18TH.

Outbreak of Cerebro-spinal Fever.

Sir C. KINLOCH-COOKE asked the Secretary to the Admiralty whether his attention had been called to the serious outbreak at Cambridge of cerebro-spinal fever among the young naval officers; whether several deaths had occurred at the Military Hospital; and whether he could make any statement on the subject.—Mr. MACNAMARA replied: I regret to say that there has been an outbreak of cerebro-spinal fever amongst the young naval officers at Cambridge. The facts are as follows: Naval officers went to Cambridge on Jan. 31st. On Feb. 5th there were 60 cases of influenza, of whom 54 were treated in one ward in No. 1 Eastern General Hospital. These were all making a good recovery until on Feb. 13th and 14th eight developed cerebro-spinal fever. At this time there was no cerebro-spinal fever in Cambridge and the disease was apparently contracted from a "carrier." Two other cases developed cerebro-spinal fever and the infection of one was traced to a previous case of this disease; the other was contracted outside Cambridge. It will thus be seen that nine out of the ten contracted the disease whilst in No. 1 Eastern General Hospital. Of these ten cases I am sorry to say five have died. All these cases have been isolated and nursed in the Military Hospital at Cambridge and Colonel Griffiths, A.M.S., allowed them to be treated in that hospital and not sent to the usual hospital at Tring, thus saving a long journey by ambulance. The military authorities placed the services of Captain E. H. Shaw, R.A.M.C., military specialist in cerebro-spinal fever, at the disposal of Colonel Griffiths for the treatment, and Surgeon Rear-Admiral Sir Humphry Rolleston was sent up by our medical authorities on receiving the first report from Cambridge and has made frequent visits since. The Medical Research Committee have supplied the special serum used in the treatment. I am advised that the epidemic is considered to be well in hand, and everything possible has been done for the patients. The last case was notified on Feb. 24th at Cambridge, and there have been no fresh cases since March 7th, and that was the one which was infected outside Cambridge.

Demobilisation of Medical Officers.

Major MOLSON asked the Secretary for War (1) whether in view of the fact that doctors and nurses had been demobilised at a slower rate than other ranks he would state whether all field ambulances and casualty clearing stations had been demobilised in areas where hostilities had ceased; (2) whether in view of the fact that medical men and nurses were demobilised at a slower rate than the rest of the Army during the first four months since the Armistice and that Territorial and temporary commissioned doctors could only be demobilised on application being received from the Ministry of National Service he would give orders to remove that restriction in order to meet the present urgent needs for medical service, and also that the medical men's own applications for discharge be considered.

Lieutenant-Colonel WEIGALL also asked the Secretary for War what was the reason for the slow rate of demobilisation of Army doctors?—Mr. CHURCHILL replied: I was informed that the delay in the more rapid demobilisation of medical officers was in the main due to the fact that since the armistice military hospitals have had to deal with large numbers of repatriated prisoners of war, the greatly increased numbers of enemy prisoners, and with hospital population which was transferred to military hospitals both at home and abroad, on the closing of the auxiliary American hospitals and those belonging to the Dominions. It was also stated that the large number of civil medical practitioners released by the closing of the other hospitals mentioned was not included in any returns of the numbers demobilised. However, as I told the House, I did not consider these reasons sufficient to explain the proportion of medical men and soldiers respectively demobilised. I have therefore given directions for a prompt and more general demobilisation of medical officers from the Royal Army Medical Corps. In consequence, the Minister of National Service has agreed with the War Office that the restricted procedure of selection of individuals for release shall be discontinued. There has not been much time for the fruits of these measures to become apparent, but I may add that, as the result of the directions given, the rate of releases both of doctors and nurses has greatly increased. In the past week, for example, about 700 doctors have been released.

WEDNESDAY, MARCH 19TH.

Gratuities to Temporary Naval Medical Officers.

Sir ROBERT WOODS asked the Secretary to the Admiralty whether war gratuities to temporary naval medical officers would be on the same scale as those to temporary officers of the R.N.R. and R.N.V.R.; and, if not, would he state the reasons for differential treatment.—Mr. MACNAMARA replied: Following the practice of the Army, the gratuities of the temporary naval medical officers holding the rank of surgeon-lieutenant are at the rates of £60 and £50 for each year or part of a year's service for officers of the medical and dental branches respectively. The war gratuities of temporary medical officers above the rank of surgeon-lieutenant are based on their pay and are on the same scale as those of other temporary officers R.N.R. and R.N.V.R. The reason for the differentiation is that temporary surgeon-lieutenants are on special rates of pay, while those above that rank are on service.

Ministry of Health for Egypt.

Sir H. CRAIK asked the Secretary for Foreign Affairs whether any steps had been taken to constitute a Ministry of Health in Egypt as urged by a recent Committee of Inquiry.—Mr. DUDLEY WARD (for Mr. BALFOUR) replied: Administrative changes of considerable importance are already taking place on the lines recommended by the Committee of Inquiry, and other steps are under consideration, but expansion of the Department of Public Health to the full extent urged by the Committee requires further examination by the authorities concerned.

Medical News.

AT a special meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on March 14th, Dr. Harold Pringle, chief assistant to the professor of physiology and lecturer in histology, University of Edinburgh, was elected King's Professor of Institutes of Medicine in the School of Physic in Ireland.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS.—The obligation placed upon medical officers of health to furnish particulars of male persons between certain specified ages who have been notified as suffering from tuberculosis to the Ministry of National Service has been rescinded by an Order of the Local Government Board.

LONDON TEMPERANCE HOSPITAL.—The general meeting of members and governors will be held on Thursday next, March 27th, at 3.30 P.M., and at 5 P.M. the forty-sixth annual public meeting will be held in the out-patient hall, when the chair will be taken by the Marquis of Lincolnshire. The speakers will include the Bishop of Willesden, Dr. J. Porter Parkinson, Mr. Arthur Evans, and Sir T. Vezey Strong, chairman of the board of management.

The War and After.

THE CASUALTY LIST.

THE names of the following medical officers appear among the casualties announced since our last issue :—

Previously Reported Missing, now Reported Killed.

Capt. W. C. D. Wilson, R.A.M.C., qualified at Aberdeen in 1915, and thereupon joined up.

Died.

Capt. W. R. Allen, R.A.M.C., qualified at Dublin in 1909, and held appointments at Monkstown Hospital, Dublin, and at the Nottingham City Asylum. Prior to joining up he was assistant medical officer at the Broadmoor Asylum, Crowthorne, Berks.

Capt. H. C. R. Chowdhury, I.M.S.

CASUALTIES AMONG THE SONS OF MEDICAL MEN.

THE following additional casualties among the sons of medical men are reported :—

Lieut. C. O. B. Buckmaster, Duke of Cornwall's Light Infantry, died at Belfast of influenza, only son of Dr. G. A. Buckmaster, of Hampstead, London.

Lieut. F. C. Stovin, R.A.F., reported missing April, 1918, since reported by German Red Cross killed in aerial action over German lines, youngest son of Dr. C. F. Stovin, of Westcliff-on-Sea, Essex.

Lieut. H. H. K. Dunlop, R.A.S.C., died in Italy of pneumonia following influenza, youngest son of the late Professor J. Dunlop, of Glasgow.

THE SERVICES.

ARMY MEDICAL SERVICE.

Col. C. K. Morgan relinquishes the appointment of Assistant Director of Medical Services at the War Office.

Col. S. F. Clark, on completion of four years' service in his rank, to be retained on the Active List.

Temp. Col. C. H. S. Frankau (Capt. and Bt. Major, R.A.M.C., T.F.), relinquishes his temporary commission on re-posting.

Major A. B. Smallman to be an Assistant Director-General and to be temporary Lieutenant-Colonel, vice Bt. Col. A. L. A. Webb, C.M.G.

Major G. A. D. Harvey to be a Deputy Assistant Director-General, vice Major A. B. Smallman.

ROYAL ARMY MEDICAL CORPS.

Temp. Major E. G. Coward to be temporary Lieutenant-Colonel and Temp. Capt. R. H. Rigby to be temporary Major whilst employed with the Huddersfield War Hospital.

Temp. Capt. H. D. Robb relinquishes the acting rank of Major on re-posting.

To be acting Lieutenant-Colonels while specially employed : Major A. E. S. Irvine, Capt. (acting Major) A. G. Wells.

The undermentioned relinquish the acting rank of Major on re-posting : Capts. E. A. Strachan, E. P. A. Smith, F. A. Robinson, J. C. A. Dowse ; Temp. Capts. W. Anderson, R. S. Renton, C. A. Boyd, W. M. Badenoch, M. W. Baker, G. Buchanan, H. R. Macintyre, A. T. Edwards, W. A. Curry, J. H. Legge, J. B. Cooke, M. W. B. Oliver, S. W. McLellan.

H. Emerson, late temp. Capt. (acting Major), is granted the rank of Major.

Temp. Capt. A. G. Southcombe to be acting Major, whilst commanding troops on a Hospital Ship.

To be acting Major : Capt. P. G. M. Elvery ; Temp. Capts. J. M. Clements, C. A. Weller, J. B. Tombleson, T. Kelly, C. C. Irvine, E. Biddle, E. Scott, G. Wilson, J. W. Tocher, J. G. Ackland, J. Kirton, M. R. MacKay, T. W. Melhuish, L. M. Smith, F. R. Sturridge, G. A. Lilly. Whilst specially employed : Capts. G. W. S. Paterson (Home Hospital Reserve), R. C. Priest ; Temp. Capts. E. A. C. Beard, A. C. Pickett, E. A. Lindsay, A. C. Keep.

Capt. W. Tyrrell to be seconded for service with the R.A.F.

Late temporary Captains granted the rank of Captain : W. J. Macdonald, T. Duncan, J. Singer.

Temporary Lieutenants to be temporary Captains : J. A. Aitken, J. Loftus, W. Blight, H. C. Sutton, S. Wilton.

Officers relinquishing their commissions : Temp. Lieut.-Col. W. L. W. Marshall, and retains the rank of Lieutenant-Colonel ; Temp. Lieut.-Col. J. A. Wait (Lieutenant-Colonel, R.G.A. T.F.) ; Temp. Maj. E. L. Gowland, D.S.O. (granted the rank of Lieutenant-Colonel) ; Temp. Capts. (granted the rank of Major) W. G. Johnston, A. H. Spicer, A. B. Cardew, W. T. Hessel ; Temp. Capts. (retaining the rank of Captain) J. F. Broughton, J. N. Clark, C. H. Booth, J. F. Dow, V. J. Woodley, A. W. C. Drake, L. H. F. Thatcher, R. H. Smythe, R. Rowlands, T. H. G. Shore, D. M. Ross, W. Templeton, F. P. Wigfield, T. Whitehead, D. S. Robertson, G. D. Laing, W. S. Stalker, J. Robertson, W. J. Paramore, A. T. Moon, D. R. Williams, J. C. Mann, A. Allison, T. A. Watson, J. S. Crichton, F. J. Allen, E. A. Lumley, W. A. Hislop, G. M. Shaw, O. D. B. Mawson, A. C. Farlinger, J. Cairns, C. E. F. Salt, S. K. Vines, J. J. Boyd.

Temp. Capt. V. J. P. Clifford, on appointment under the Ministry of National Service.

Temporary Lieutenants retaining the rank of Lieutenant : J. D. Russell, T. E. Hill, M. Wheeler, R. M. Rendall, J. Taplin, C. J. Middleton.

SPECIAL RESERVE OF OFFICERS.

Captains relinquishing the acting rank of Major on re-posting : G. Dalziel, R. MacKinnon, W. W. Wagstaffe.

Captains to be acting Majors : W. H. Dye (Hon. Lieut.-Col.) D. J. Armour, A. Winfield, R. H. Williams.

Capt. (acting Major) R. Green relinquishes his commission and retains the rank of Major.

Capts. J. W. Brash and I. G. M. Firth relinquish their commissions and retain the rank of Captain.

TERRITORIAL FORCE.

Major A. Fowler resigns his commission.

Capts. (acting Lieut.-Cols.) A. W. S. Loudon and N. C. Rutherford relinquish their acting rank on ceasing to be specially employed.

ROYAL AIR FORCE.

Medical Branch.—Lieut. J. Walker-Brash to be Captain.

The undermentioned are transferred to unemployed list : Lieut. W. Cahill, Capt. R. R. V. Hale, Capt. H. G. Sutherland.

Lieut. O. S. Martin relinquishes his commission and retains his rank.

TERRITORIAL FORCE DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers :—Lieut.-Cols. L. J. Blandford, J. M. Rogers-Tillstone, F. Kelly, H. W. Thomson, G. B. Masson, Temp. Lieut.-Col. W. Hind, Majors (Temp. Lieut.-Cols.) J. Gray, C. Stonham (deceased), Major (acting Lieut.-Col.) R. T. Turner, Major and Bt. Lieut.-Col. A. B. Harris, Majors A. C. Oldham, J. Callan, H. Dodgson, W. A. Taylor, A. J. Naylor, A. Thomas, W. J. Mackinnon, W. R. N. Smithard, Capts. H. C. Okill, A. H. Hartshorn, and J. Wallace, (T.F.R.) (attached 2nd Welsh Field Ambulance).

BOOKS, ETC., RECEIVED.

CONSTABLE AND CO., London.
The Great War Brings it Home : the Natural Reconstruction of an Unnatural Existence. By J. Hargrave. 10*s.* 6*d.*

CLARIDGE AND CO., G., Bombay.
A Primer of Tropical Hygiene. By Colonel R. J. Blackham, C.M.G., A.M.S. 5th ed.

DENT, J. M., London and Toronto.
The Voice Beautiful in Speech and Sound. By E. G. White. 5*s.*

FROWDE, HENRY, AND HODDER & STOUGHTON, London.
A Medical Service Handbook. By C. M. Page, F.R.C.S. With Foreword by Major-General Sir G. Makins. 6*s.*
Surgical Aspects of Typhoid and Paratyphoid Fevers. By A. E. Webb-Johnson, M.B. With Foreword by Lieutenant-General T. H. Goodwin, Director-General, A.M.S. 10*s.* 6*d.*

HARRISON AND SONS, London.
Memorandum on the Industrial Situation After the War : the Garton Foundation. Revised and enlarged edition. 2*s.*

Communications, Letters, &c., to the Editor have been received from—

A.—Capt. J. H. Aitken, R.A.M.C.; *Answers*, Lond., Editor of; Mr. R. J. Albery, Lond.

B.—Dr. J. Blomfield, Lond.; Mr. F. W. Broderick, Bournemouth; Dr. F. G. Bell, Edinburgh; Miss Bligh, Lond.; Mr. T. W. Bassett, Cork; Dr. A. C. Begg, Swansea; Mr. G. Bethell, Lond.; Dr. G. Blacker, Lond.; Dr. B. G. M. Baskett, Rayleigh; Mr. J. J. Bates, Bournemouth; Dr. F. G. Bell, Edinburgh; Board of Agriculture and Fisheries, Lond.; Dr. N. Bardswell, M.V.O., Lond.; Mrs. C. Brereton, Lond.

C.—Cambridge Literary Agency, Lond.; Dr. I. G. Cobb, Lond.; Chadwick Trust, Lond.; Chicago School of Sanitary Instruction; Capt. S. W. Coffin, R.A.M.C.; Capt. W. G. H. Cable, R.A.M.C. (S.R.); Major E. M. Corner, R.A.M.C.(T.)

D.—Dr. H. Dally, Lond.; Dr. V. Dickinson, Lond.; The Decimal Association, Lond.; Capt. F. H. Diggle, O.B.E., R.A.M.C.; Capt. A. Devonald, R.A.M.C. (T.); Lieut.-Col. J. Dorgan, R.A.M.C.

E.—Dr. J. Eyre, Lond.; Mr. W. H. Evans, Lond.; Dr. H. A. Ellis, Middlesbrough.

F.—Flat Co., Lond.; Capt. J. G. Forbes, R.A.M.C.; Factories, Chief Inspector of, Lond.

G.—Mr. H. J. Gauvain, Alton; Dr. J. Gairdner, Crieff; Dr. A. K. Gordon, Lond.; Dr. H. L. Gordon, Lond.

H.—Capt. O. Heath, R.A.M.C.; Mrs. M. Hobbs, High Wycombe; Lieut.-Col. C. B. Harrison, I.M.S.; Major C. A. F. Hingston, I.M.S., Madras; Harveian Society of London.

I.—Imperial War Museum, Lond.

J.—*Journal of Nervous and Mental Disease*, New York, Managing Editor of.

K.—Mr. W. P. Kelly, Arklow; King Edward's Hospital Fund for London, Hon. Secs. of.

L.—Dr. R. B. Low, Lond.; London Temperance Hospital, President of; Major N. C. Lake, R.A.M.C.; Major J. H. Lloyd, R.A.M.C.(T.); Miss E. Lowry, M.B., Lond.

M.—Dr. H. L. Murray, Liverpool; Mr. J. Y. W. MacAlister, Lond.; Mr. P. Millican, Lond.; Dr. A. Macphail, Lond.; Mr. F. Milton, Coonoor; Medical Research Committee, Lond.; Dr. I. Moore, Lond.; Capt. J. McKie, R.A.M.C.

N.—Capt. H. L. C. Noel, R.A.M.C.; National Council of Public Morals, Lond.

O.—Bt. Major A. W. Ormond, R.A.M.C.(T.); Dr. H. Oppenheimer, Lond.; Mr. J. Offord, Lond.; Dr. G. W. Ord, Bexhill-on-Sea.

P.—Dr. R. H. Paramore, Rugby.

R.—Dr. W. Russell, Edinburgh; Royal Statistical Society, Lond.; Dr. G. H. Rutter, Bournemouth; Dr. M. J. Rowlands, Lond.; Mr. H. C. Ross, Lond.; Royal Society of Arts, Lond.; Royal Society, Lond.

S.—Mr. R. A. Stoney, Dublin; Dr. A. G. Shera, Netley; Dr. M. H. Smith, Portland; Sanator (Manchester).

T.—Maj.-Gen. Sir Alex. Tulloch, K.C.B., C.M.G., Torquay; Col. A. H. Tubby, A.M.S.; Dr. J. Taylor, Lond.; Dr. E. J. Tyrrell, Lond.

V.—Miss Vickers, Lond.; Major P. N. Vellacott, R.A.M.C.

W.—Mr. P. R. Wallis, Manor Park; Capt. A. A. Wilson, R.A.M.C.; Dr. S. A. K. Wilson, Lond.; Capt. S. Wickenden, R.A.M.C.(S.R.)

Communications relating to editorial business should be addressed exclusively to The Editor of THE LANCET, 423, Strand, London, W.C. 2.

Appointments.

ABRAHAM, R. C., M.B. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Wolston District of the County of Warwick.

GUNN, A. A., M.B. Edin., Certifying Surgeon under the Factory and Workshop Acts for the Blackburn (North) District of the County of Lancaster.

WATERHOUSE, R., M.D. Lond., Physician to the Royal United Hospital, Bath.

Vacancies.

For further information refer to the advertisement columns.

Aberdeen City. Mother and Child Welfare.—M.O. £500.
Bath Royal Mineral Water Hospital.—Res. M.O.
Bedford County Hospital.—H.S. £175.
Birkenhead Union Infirmary and Institution, Tranmere.—Med. Supt. £600.
Birmingham General Dispensary.—Res. M.O. £360.
Birmingham University Faculty of Medicine.—Asst. Prof. of Anatomy. £500.
Blackburn and East Lancashire Royal Infirmary.—H.S. £250.
Bodmin, Cornwall County Asylum.—Jun. Asst. M.O. £300.
Bradford City.—Ven. Dis. O.
Brecon and Radnor Asylum, Talgarth, Breconshire.—Temp. Asst. M.O. £7 7s. per week.
Burnley County Borough.—Asst. M.O. £550.
Chester City and County.—Asst. M.O.H. £400.
City of London Hospital for Diseases of the Chest, Victoria Park, E.—S. Also M.O. £200.
Coventry and Warwickshire Hospital, Coventry.—Res. H.P. £250.
Derbyshire Hospital for Sick Children.—Female Res. M.O. £150.
East African Medical Appointments.—M.O. £400-£20-£500.
East London Hospital for Children and Dispensary for Women, Shadwell, E.—Asst. Phys. Also M.O. for Electrical Department.
Elizabeth Garrett Anderson Hospital, Euston-road.—Female H.P., also Obstet. Asst. £50.
Essex County Mental Hospital, Brentwood.—Asst. M.O. £210.
Federated Malay States Government.—Seven M.O., Grade II., and Three Female M.O. £350.
Fiji Medical Appointments.—Five M.O. £300.
Gloucester County Borough.—Asst. School M.O. and Asst M.O.H. £400.
Greenock Corporation.—M.O.H. £700.
Guildford, Royal Surrey County Hospital.—H.S.
Hospital for Sick Children, Great Ormond-street, W.C.—H.S. £50. Also Cas. M.O. £200.
Keighley Borough Education Committee.—Female Asst. M.O. £300.
Lincoln Mental Hospital, The Lawn, Lincoln.—Asst. M.O. £250.
Liverpool, Royal Southern Hospital.—Res. P. and S. Also Non-Res. Cas. O.
London Lock Hospital and Rescue Home, Harrow-road, W., and 91, Dean-street, W.—Hon. Surg. to Out-patients.
Manchester, Ancoats Hospital.—Jun. Res. £50. Also M.O. £25.
Manchester Corporation.—Asst. Tuberc. O. £450.
Manchester Royal Infirmary (Central Branch), Roby-street.—Res. S.O. £200.
Metropolitan Ear, Nose, and Throat Hospital, Fitzroy-square, W.—H.S. £100.
Middlesex Education Committee.—Sch. Dent. £300.
Newcastle-on-Tyne Dispensary.—Res. M.O. £300.
Newcastle-upon-Tyne, Royal Victoria Infirmary and the University of Durham College of Medicine.—Asst. to Prof. of Path.
Newcastle-on-Tyne, University of Durham College of Medicine.—Demonstrator of Anatomy. £300 to £400.
Northamptonshire County Council.—Female M.O. £400.
Northampton General Hospital.—H.S. £200.
Northern Hospital Sanatorium, Winchmore Hill, N.—Two Temp. Asst. M.O. Seven guineas per week and £3 7s. per week.
Portsmouth County Borough.—Asst. Tuberc. O. £400.
Preston, County Asylum, Whittingham.—L.T. 7 gs. per week.
Prince of Wales's General Hospital, Tottenham, London, N.—Hon. Asst. P. in Out-patients' Dept. Also Sen. H.P. and Sen. H.S. £200. Also Jun. H.P. and Jun. H.S. £120.
Queen's Hospital for Children, Hackney-road, Bethnal Green, E.—S.
Queen Mary's Hospital for the East End, Stratford, London, E.—Honorary Gynæcologist and Obstetrician.
Rhondda Urban District Council.—Asst. School M.O. and M.O.H. £400. Also Dent. S. £350.
Royal Free Hospital, Marlborough Maternity Section, Gray's Inn-road, W.C.—Female Res. M.O. £150.
Royal Waterloo Hospital for Children and Women, Waterloo-road, S.E.—Honorary Gynæcologist to Out patients.
Scarborough Hospital and Dispensary.—Two H.S.
Shanghai Municipal Council Health Department.—Asst. Health Officer. £800.
Sheffield Royal Hospital.—Cas. O. £130.
Sheffield Royal Infirmary.—Res. S.O. £200.
Southampton Free Eye Hospital.—H.S. £150.
Stafford Staffordshire County Mental Hospital.—Sec. Asst. M.O. £300.
Straits Settlements Government.—Six M.O. £350.
Swansea General and Eye Hospital.—Res. H.P. £200. Also Sen. Student £120.
Wakefield, West Riding Asylum.—L.T. 7 guineas per week.
Wallasey County Borough.—Tuberc. O. and Asst. M.O.H. £500.
Warford, Alderley Edge, David Lewis Epileptic Colony.—Med. Asst. Director. £400.
Weihaiwei Government.—Jun. M.O. £400.
West Riding of the County of York.—District Tuberc. O. £500.
Wigan Infirmary.—Jun. H.S. £220.
Wolverhampton and Staffordshire General Hospital.—Two H.S. £200.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Poole and Skegness.

Births, Marriages, and Deaths.

BIRTHS.

FORSYTH.—On March 14th, at Coates-crescent, Edinburgh, Maisie, the wife of Lieutenant-Colonel W. H. Forsyth, D.S.O., R.A.M.C., of a daughter.

HITCHCOCK.—On March 13th, at Avonmore, Netley, the wife of Captain C. G. Hitchcock, R.A.M.C., of a son.

MARRIAGES.

SOLTAU—WRIGHT.—On March 13th, at St. Mary's Church, Stafford, Captain H. K. V. Soltau, R.A.M.C., to Nora Ramscar, youngest daughter of Mr. Charles H. Wright, of Tillington Hall, Stafford.

DEATHS.

ALEXANDER.—On March 9th, suddenly, William Alexander, M.D., F.R.C.S., of Holestone, Heswall, Cheshire, and Rodney-street, Liverpool.

GALLOWAY.—At 16, Saltwell View, Gateshead-on-Tyne, on March 15th, Walter Galloway, L.R.C.P. & S. Edin., late of Wrekenton and Low Fell, County Durham. Cremated at Darlington, March 20th.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.
THURSDAY, March 27th.—Papers:—Dr. R. McCarrison: The Genesis of Œdema in Beri beri (communicated by Prof. J. G. Adami).—Mr. H. L. Hawkins: The Morphology and Evolution of the Ambulacrum in the Echinoidea (communicated by Dr. H. Woodward).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.1.

Wednesday, March 26th.

SOCIAL EVENING: at 8.30 P.M.
Mr. Walter G. Spencer: On Larrey and War Surgery.

MEETINGS OF SECTIONS.

Monday, March 24th.

ODONTOLOGY (Hon. Secretaries—F. N. Doubleday, G. Paton Pollitt, J. Howard Mummery): at 8 P.M.
Paper:
Captain Kelsey Fry: The Prosthetic After-treatment of War Injuries of the Maxilla.
Casual Communication:
Mr. F. N. Doubleday: A Case of Extensive Loss of the Mandible treated by the Colyer Method.

Friday, March 28th.

STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—G. E. C. Pritchard, H. C. Cameron, C. P. Lapage): at 4.30 P.M.
Abdominal Cases will be shown.
Members wishing to exhibit cases are asked to give notice to the Senior Hon. Secretary, Dr. G. E. C. Pritchard, 35, Harley-street, W. 1.

OPHTHALMOLOGY (Hon. Secretaries—Leslie Paton, Malcolm Hepburn): at 8 P.M.
Papers:
Captain Maxted: Malignant Tumour of the Pituitary Body.
Mr. J. Herbert Fisher: Migraine.
Captain E. M. Eaton, R.A.M.C.: Stereoscopic Vision.
Cases:
Mr. Elmore Brewerton: Angeoid Streaks in the Retina.
Miss Rosa Ford: (1) Congenital Pigmentation of the Cornea; (2) Pituitary Tumour.

The Royal Society of Medicine keeps open house for R.A.M.C. men and M.O.'s of the Dominions and Allies. The principal hospitals in the metropolis admit medical officers to their operations, lectures, &c. Particulars on application to the Secretary at 1, Wimpole-street, London, W. 1.

TUBERCULOSIS SOCIETY, at the Royal Society of Medicine, 1, Wimpole-street, W.
MONDAY, March 24th.—8.30 P.M., Discussion on Tuberculosis Officers and Panel Practitioners (opened by Dr. H. Sutherland).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.
TUESDAY, March 25th, AND THURSDAY.—5 P.M., Goulstonian Lectures:—Dr. W. W. C. Topley: The Spread of Bacterial Infection.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.
Special Eight Weeks Course of Post-Graduate Instruction. (Details of the Course were given in our issue of Feb. 15th).

LONDON HOSPITAL MEDICAL COLLEGE.
A Special Course of Instruction in the Surgical Dyspepsias will be given at the Hospital by Mr. A. J. Walton. Lectures, given in the Clinical Theatre:—
MONDAY, March 24th.—1 P.M., Lecture IX.:—Gastric Ulcer; Complications, Treatment.
FRIDAY.—1 P.M., Lecture X.:—Surgical Anatomy of the Duodenum and Pancreas. (In the Dissecting Room.)

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL (UNIVERSITY OF LONDON), Governors' Hall, St. Thomas's Hospital, S.E.
A Series of Ten Lectures on Diseases met with in the Sub-tropical War Areas (illustrated with lantern slides, charts, diagrams and microscopical preparations).
WEDNESDAY, March 26th, AND FRIDAY.—5 P.M., Lectures VII. and VIII.:—Dr. L. S. Dudgeon: Bacillary and Amœbic Dysentery.

Notes, Short Comments, and Answers to Correspondents.

RAFFAELE PAOLUCCI.

ON Nov. 1st the Austrian Dreadnought Flagship, *Viribus Unitis*, was sunk in the harbour of Pola by two young Italian officers, Raffaele Rossetti and Raffaele Paolucci. The idea of so destroying this ship, which in the days of Caporetto had sent out wireless messages insulting to Italy, occurred to these officers independently. Rossetti was a naval engineer, but the *Annali di Medicina Navale* for September–October, appearing a little late, takes great pleasure in emphasising that Raffaele Paolucci was a lieutenant in the Naval Medical Department. He had served at the beginning of the war, being unqualified, as sergeant of a sanitary section, where he distinguished himself in a cholera epidemic, and later, having qualified, was sent to a Regiment of Bersaglieri, where again he came to notice for attention to the wounded under fire, then four months later he joined the Navy. The two officers simultaneously submitted proposals for entering Pola harbour; authority, approving their schemes, brought them together; they worked with enthusiasm, and themselves were the only crew of the boat which secured the triumph. The decree of the King of Italy promoting them is in almost identical terms to each, so similar were their ideas and achievements. The medical officers of the Italian Navy may well be proud of the skill and daring of their young brother officer.

COLONIAL HEALTH REPORTS.

St. Vincent.—A report on the Blue-book of this colony for 1917–18, written by Mr. Anthony de Freitas, acting administrator, has been received at the Colonial Office and presented to Parliament. It gives the present estimated population as 50,669. The birth-rate for the year was 36·64 per 1000 of the estimated population and the death-rate 20·99 per 1000. Illegitimate births numbered 1224, or 65·91 per cent. of the total number of all births. During 1917–18 there were 1055 admissions to the colonial hospital and 168 operations were performed. The death-rate was 6·3 per cent. of the cases treated. The casualty hospital at Georgetown, with four beds, continued to fulfil its purpose of providing the means of treating emergency cases; 23 cases were dealt with. At the yaws hospital 99 cases were treated, and 57 of these were discharged cured. At the usual district dispensaries and at special travelling dispensaries 1178 other yaws patients were treated during the year. During the last two years a campaign against yaws has been maintained at these dispensaries with the following results: cases treated, 2308; cured, 1152; still under treatment 619. In the leper asylum eight patients were maintained; none died. The campaign undertaken by the Rockefeller International Health Board for the eradication of the ankylostomiasis or hookworm disease was carried on by Dr. P. B. Gardner for nine months in 1917. Of 6295 persons examined in that period, 4118 were found to be infected with hookworm; the number treated was 4453, of whom 4159 were cured. In connexion with the campaign measures for fæcal sanitation under the public health regulations were carried out for preventing soil pollution, so as to avoid re-infection and new infection. New latrines to the number of 414 were erected at homes located within the area in which the campaign was conducted during the nine months. The rainfall for the year was 92·96 inches, and the mean monthly temperature 79° F.

A CRETAN LIBRARY.

Manuscript No. 3574 B of the Hebrew collection in the University of Bologna contains several medical treatises, all but one of which are translations from the Arabic, made in the fourteenth and fifteenth centuries. One bears the translation date of 1305. In addition to these there is a catalogue of the medical books in the library of Levi Novico, a medical man of a well-known Cretan family who resided at Candia early in the sixteenth century.

This list is of importance for the history of medical literature, because it discloses what works upon the science were obtainable by an ordinary well-to-do practitioner (for the Novico family were highly respected at Crete) and thought to be worthy of study and also of being translated from the Arabic in the later Middle Ages. The Hebrew titles in the catalogue cannot be given here, neither is it necessary to specify works enumerated which are not now extant or of whose contents we are ignorant, but a summary is made of those of which we still possess versions either in Hebrew or the original language in which they were composed. The first of Levi's medical books is stated to be by R. Vidal, which is merely a pseudonym for Moses of Narbonne. A copy of it is to be found, bearing the same title, in a Munich manuscript, according to Steinschneider's Catalogue of Hebrew Codices there. An interesting text was that of the "Aphorisms" of Hippocrates with the commentary of Moses Maimonides. The compiler of the catalogue notes that its Hebrew translator was Moses-ibn Tibbon, and he executed the work about A.D. 1260. A copy of this is at the Bodleian Library, Oxford, and is No. 1319 of Dr. Neubauer's catalogue. Another book was a treatise upon fevers and the urine by a certain Isaac-ha-Isreeli. Another book enumerated was entitled "Mansourian Medicine." This is the work which Mohammed-ben-Zakhariya-al-Rhazi dedicated to Abu-Djafir-El-Mansouri, an Abbasid Caliph. There is a copy in the Bodleian, No. 2030. Levi Novico's translation of it was by Rabbi Schem Tob, and a recension of this is in the Vatican Library.

The next medical work in the list of which we know something was a commentary upon Galen's Τέχνη, by Isaac ben Hosein, or Honein. This was rendered into Hebrew by Moses-ibn Tibbon. Apparently it was identical with a treatise in a manuscript at Ferrara, which Rabbi Jare calls "Compendio di Honein ibi Isaac di quanto trattasi nel commento de Galeno sulla opera d'Ippocrate intorno alle malattia acute." There is an Oxford manuscript of it, No. 2088. Levi also had secured a copy of Gerard of Cremona's Latin edition of Avicenna's "Canon," published at Venice in 1595 under the title of "Tabulae isagogica in universam medicinam ex Arte Humani id est Joanitii Arabis." Another work of which a copy is at Oxford, Bodleian 2111, and another at Munich was called "Viaticum perigrinantis" by Ibn al Djeza. The Hebrew version Levi had was by Moses-ibn Tibbon. Another book was a treatise upon Simples by a Spanish Arab, Omniah Abd el Aziz Andaluzzi. According to Herbelot he knew of an Arabic text of this. Among works of which we are ignorant, a well known one occurs, the "Lilium Medicinæ" of Master Bernard Gordon. Hebrew versions of this are extant. Avicenna is also represented by a translation of his "Medicamenta Cordialia." This may be identical with the Hebrew version of this work now in the Leiden library. The Bodleian possesses a commentary upon it, No. 2109.2. More interesting must have been Levi's Manuscript No. 4, for it contained Avicenna's treatise on fevers, being the fourth book of that author's "Canon" and with it was included the explanation of Averoes. The translator into Hebrew was Solomon ben Abraham ibn Daod, and a copy is in Neubauer's Bodleian Catalogue, No. 2112. Next may be noticed a work which is extant in various versions, by the elder Serapion of Damascus. It is a well-known book, because of paraphrases of it having been published by Albanus of Turin and Gerard of Cremona, who called it "Practica" and "Breviarum." The Bodleian No. 7182 has a Hebrew version of it by Rabbi Moses of Capua. In conclusion should be noticed a Hebrew work entitled "Observations upon Bodily Afflictions." This was probably a treatise upon diagnosis.

OSTEO-ARTHRITIS.

To the Editor of THE LANCET.

SIR,—In answer to an inquiry under the above heading in your issue of March 15th, a patient who had been treated ineffectually for a pain in his hip for two years had his morning urine acidulated with 10 per cent. of strong hydrochloric acid, and after a few hours a great excess of uric acid was precipitated. Four tablets of phenoquin (phenylcinchoninic acid) had been taken overnight. The treatment was continued for 14 days, when the pain had completely disappeared and the urine, being examined, was found free from excess of uric acid. The same good results have followed other similar instances and in cases of neuritis, migraine, iritis, conjunctivitis, eczema, &c., some of very long standing. But in typical cases of osteo-arthritis there is no relief and no deposit.

I am, Sir, yours faithfully,

London, S.W., March 15th, 1919. DUNCAN DUNCAN.

LIFE AND HEALTH IN THE HIGHLANDS.

UNDER this title Dr. Lachlan Grant has contributed to the *Caledonian Medical Journal* an article, now reprinted, which shows that the growth of new ideas and the revivifying of old ideas, which have taken place during the war on all hands, have affected the Highlands of Scotland in a marked way. In an economical sense the Highlands and Islands are only now being discovered, says Dr. Grant, who indicates their latent possibilities of production in agriculture, quarrying, fisheries, forestry, and manufacturing and cottage industries. The housing problem is, of course, as acute in this part of Scotland as in other parts of the country and the United Kingdom, and considerations of public health, social amenities, justice to mothers, and welfare of children make it imperative, he thinks, to launch an elastic comprehensive scheme and to carry this out as soon as labour and materials are available. With regard to the Highlands and Islands Medical Service, for the improvement of which Dr. Grant has always been a front-rank advocate, he appeals for a more generous scheme.